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AMERICAN PUBLIC HEALTH ASSOCIATION, Inc.

1790 Broadway (at 58th Street), New York 19, N. Y.

In the City of Baqdad lived Hakeem, the Wise One, and many people went to him for counsel, which he gave freely to all, asking nothing in return.

There came to him a young man, who had spent much but got little, and said: "Tell me, Wise One, what shall I do to receive the most for that which I spend?"

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American Journal of Public Health
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Official Monthly Publication of the American Public Health Association, Inc.

Volume 42 — June, 1952 — Number 6

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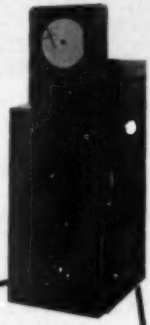

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Dental Caries..

Miller's acidogenic theory that all fermentable carbohydrates may cause an oral condition favorable to tooth decay easily leads to inconsistency and misapplication unless its scientific bases are fully considered. By oversimplifying the theory, the results may be definitely misleading, as when its advocates point an accusing finger at sweetened beverages.

Even in its unproved status, the acidogenic theory involves many variables in addition to fermentable carbohydrates (natural or refined). The report of the University of Michigan Workshop on dental caries mentions several factors other than the nature of the food consumed. Among others, these include mouth conditions which favor caries susceptibility, the characteristics and position of the teeth, the presence of dental appliances, and the amount of saliva and its buffering capacity.[2]

Also, the source of the carbohydrate, its admixture with other foods, and the extent to which residue is retained in the mouth and around the teeth will determine the degree and duration of any acidity resulting.[2]

It is apparent that solid carbohydrate-containing foods which become impacted between the teeth, or sticky foods which adhere to the teeth and gums, are most likely to provide opportunity for fermentation in the mouth. This is not true of liquids, which are not chewed and leave virtually no residue. They pass quickly through the mouth with little opportunity to be acted upon by the enzymes present.

This is a real difference in carbohydrate foods in their relation to mouth conditions involved in the acidogenic theory. It supports a position which widely separates liquids from solid and sticky foods in any consideration of their theoretical connection

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..What About Soft Drinks?

with tooth decay under the Miller concept.

In his early summary of the acidogenic theory, Miller distinguished sugar solutions from solid carbohydrate foods, or as an ingredient of sticky insoluble substances because he said, "readily soluble sugar is soon diluted and carried away."[3]

More recently Volker reached the same conclusion that sugar solutions are rapidly eliminated from the mouth,[4] thus indicating little likelihood of fermentation and oral acidity.

Haggard and Greenberg confirmed those findings by testing the duration of sugar in the saliva of humans after ingestion of various foods and liquids. Solid carbohydrate-containing substances were found to result in an appreciably longer sustained concentration of sugar in the mouth than the sweetened soft drinks, low in sugar content and which are rapidly washed away.[5]

Boyd and Speer substantiated both of the foregoing, also by tests on human subjects.[6] Findings of Bibby, Goldberg and Chen were to the same effect.[2]

Elvehjem and his associates, by animal experiments and using a highly cariogenic ration, found the ration in solid form highly effective in producing caries, but found it virtually non-cariogenic when used in liquid form.[7,8,9,10]

Bottled soft drinks have a nominal sugar content of 10 per cent (av.). Their 100 calories are an acceptable supplement to the basic dietary recommendations of the Food and Nutrition Board of the National Research Council. Their taste appeal encourages adequate liquid intake, while as fluids they pass quickly through the mouth and with minimal retention. And they provide that enjoyable refreshment and energy for a quick pick-up, which is their primary purpose.

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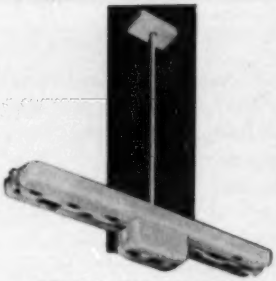

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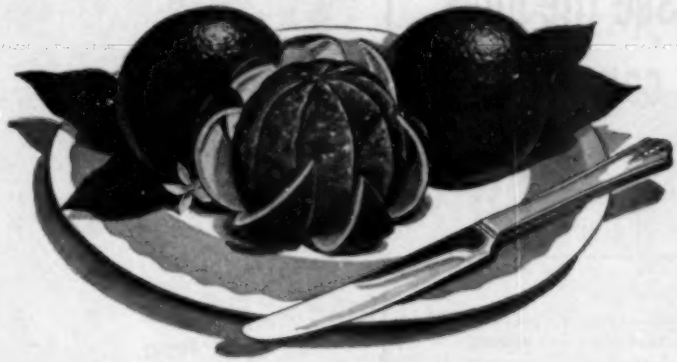
Eating whole oranges daily can have far-reaching effects on nutritional health and general well-being, accomplished through the promotion of improved intestinal function, a better intestinal environment, and enhanced absorption of ingested nutrients.



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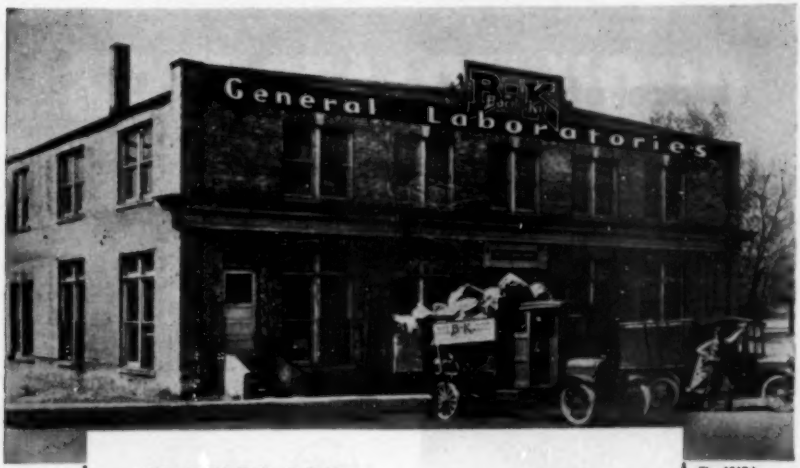

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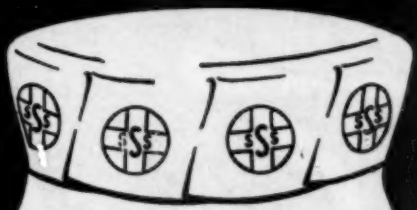

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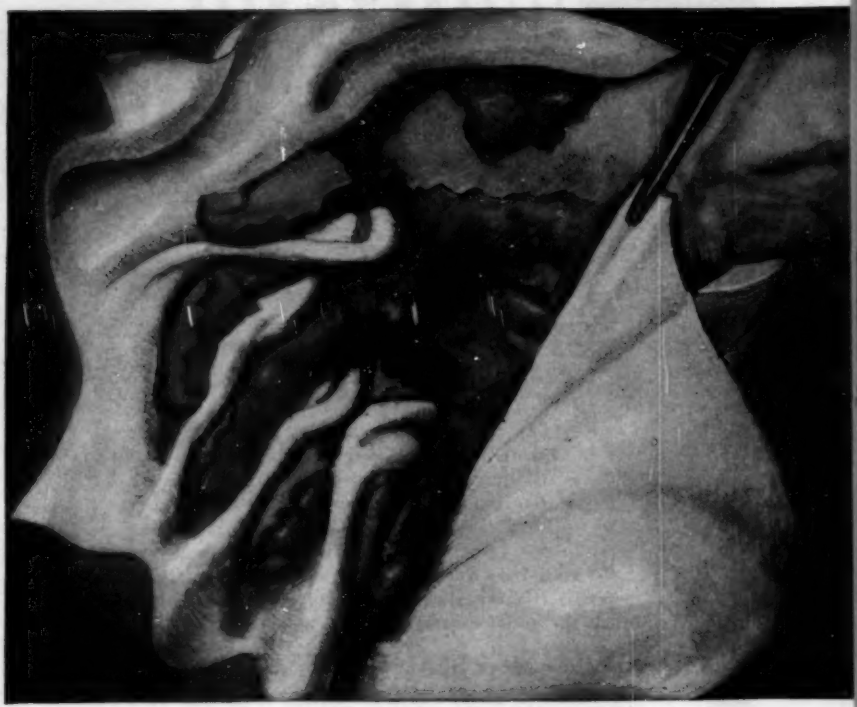

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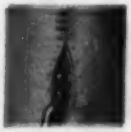

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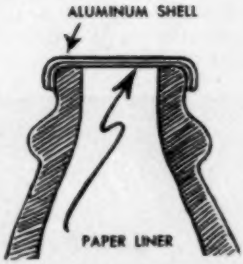

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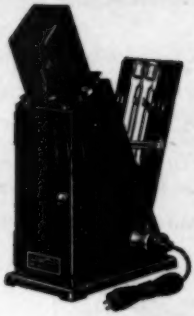

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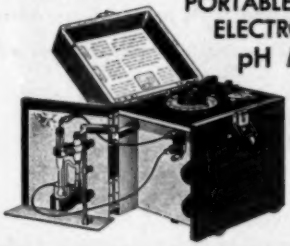

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(1) *The Journal of the Texas Public Health Association, 2-50.*

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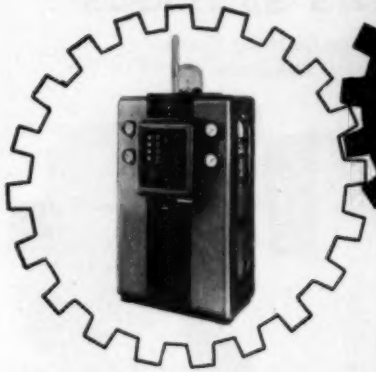

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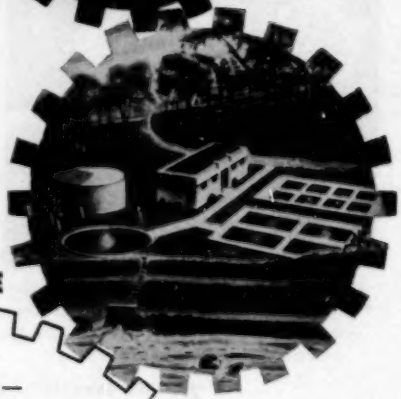

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School Health Services in England and the United States—A Comparison*

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DURING the closing years of the nineteenth century, programs of school health services were inaugurated in both England and the United States, the principal component of each being medical examinations at periodic intervals and follow-up efforts to help children obtain the treatment or specialized education that they need. Although school health services in these two countries are not identical, the similarities are without question greater than the differences.

During the spring of 1950 the writer had the privilege of observing school health programs in several parts of England,† spending about a month in London, a week in Winchester, a week in Bristol, several days in Birmingham and several days in Edinburgh, Scotland. Conferences were held with those providing leadership to school health programs and visits were made to many schools. The purpose of this report is not to describe in detail school health services in England, something which has already been done admirably in an article by Underwood,[1] but to compare certain aspects of the program in that country with comparable aspects of programs in the United States. Topics selected for consideration are (1) administration, (2) medical examinations, (3) treatment procedures, (4) dental programs, and (5) relationships with special education.

ADMINISTRATION

Comparison of methods of administering school health services is difficult because of the different patterns that exist in the 48 states of the United States. Since both education and public health in this country have generally been considered state functions, the type of program in any state is a result of the action of the state legislatures. In some instances, legislation places responsibility for the organization and conduct of school health services on the health department, in others on the education department, and in still others responsibility is shared.

A more uniform type of administration is found in England, where school health

* Presented before the School Health Section of the American Public Health Association at the Seventy-ninth Annual Meeting in San Francisco, Calif., October 30, 1951.

† These observations were made possible by a travel fellowship granted by the WHO.

services are conducted in accord with an Education Act (1944) one part of which requires that each local education authority shall appoint a school medical officer. Both the Minister of Education and the Minister of Health recommend that the local medical officer of health be appointed school medical officer, and this has been done except in three or four local units. The combined medical officer of health and school medical officer may appoint a deputy, or senior school medical officer, who devotes full-time to school health services with the help of part-time assistants. Through this procedure, coördination of public health interests and education interests is facilitated.

The requirement that each local education authority shall appoint a school medical officer has resulted in a school health service program in each school unit in England, whereas in the United States there are many schools where such programs are nonexistent. Furthermore, the procedure assures medical leadership for school health services by a full-time physician.

An approach to better coördination of school and health department interests in the United States is achieved by the joint committees now operating in many states and some local communities. These committees, with representation from both departments, and frequently other groups, are given responsibility for planning complete school health programs and for recommending desirable policies. With or without legislation, such committees can completely coordinate the activities of all individuals concerned with the school health program and mobilize all community resources for the benefit of children.

School health services in England are provided for all church schools regardless of denomination. Services provided to children in church schools include all the customary activities of school physicians and school nurses as well as the services provided in treatment centers. In the United States, health services provided by health departments usually serve children in both public and church schools, and at times this procedure is followed when services are provided by the education department.

In considering various aspects of school health services, it is essential to keep in mind the fundamental differences between a national program based on national legislation, as found in England, and individual state programs, as found in the United States. Whether a nationalized program would be desirable for the United States is a matter of opinion, influenced by one's views regarding state-federal relationships. Obviously the development of a nationwide program in England with its over 50,000,000 people in 93,000 square miles is quite different from attempting the same thing in a country of over 150,000,000 people spread over 3,000,000 square miles. Another consideration is the vastly different economic level of working people in the two countries.

MEDICAL EXAMINATIONS

In both England and the United States, two types of school health examinations are recognized—the referral examination made at the request of a teacher, parent, or nurse and the routine examination at specified intervals. In both countries leaders in school health emphasize the value and importance of examinations resulting from referral of children to the physician by the parent or school personnel. In England, routine examinations are required by regulation at the time of entrance to school, in the last year of primary school (about age 10), and in the last year of secondary school (about 14–15). This spacing of routine examinations is quite comparable to the recommended practice in the United States of two examinations during the first 6 years of

school (elementary) and two during the last 6 grades (secondary).[2]

Parental attendance at the examination of children is advocated in both England and the United States. In fact, regulations in England require that parents be invited, and over 80 per cent of younger children examined are accompanied by a parent.

Weighing and measuring and testing of visual and hearing acuity are health appraisal procedures generally utilized in both countries. However, in England these procedures are functions of the nurse, whereas in the United States they frequently are performed by the teacher with the assistance, where necessary, of a nurse, or by a technician. In general, it seems that the teacher in the United States assumes a more important role in school health services than her sister in England.

Two definite differences exist in the medical examination programs of England and the United States. In England the results of examinations and follow-up are recorded on a cumulative health record which is identical for every school in the country. In the United States there is no uniformity of records: the various states use record cards of different types, and sometimes the cities, towns, and counties of a single state use different types of health cards.

Another difference concerns the use of private physicians for school medical examinations. Many communities in the United States encourage parents to take their children to their own doctor for periodic examinations and provide a form on which the doctor is requested to submit his findings and recommendations to the school. From 30 to 40 per cent of the children in a particular school may obtain examinations from their family physician and an even greater percentage may do so in districts where the family income is high. This procedure allows the school physician to spend more time with children of low-income parents. Furthermore, it allows children to be examined by a physician who knows them better than the school physician, and it encourages families to look to their own physician for advice on health matters. In England the family physician is not used for the required periodic examination of children. Although every child is entitled to "free" medical treatment when ill, there is no requirement that a National Health Service doctor fill in a form for a child whose parent does not seek his advice about treatment.

TREATMENT PROCEDURES

Provision of treatment to needy children in England is somewhat different now from such provision before passage of the National Health Service Act, but the procedures used both before and after that time differ from those used in the United States.

Before the National Health Service Act, the Education Act, which authorized school health services, required local education authorities to provide, or to secure, treatment for various types of defects. In most instances children needing more than ambulatory treatment were referred to their own physicians. But treatment centers were set up to provide ambulatory care for minor ailments, including skin conditions, and specialists were employed to care for children with visual or auditory impairments or disease of the eyes and ears, the expense being borne by the local education authority. Arrangements were made in similar manner for the care of orthopedic problems. Special clinics were organized to care for dental defects, speech impairment, and child guidance.

With the passage of the National Health Service Act, some changes in treatment procedures took place, but these were of a minor nature. The treatment centers for minor ailments have been continued, because attendance

at school clinics was convenient for children and their parents. Speech clinics and child guidance clinics have been continued, though the Regional Hospital Boards and not the local education authorities now provide psychiatrists for the latter. On the other hand, treatment of eye and ear defects and disease, and other conditions requiring the services of a specialist or involving nonambulatory treatment, are now cared for through the National Health Service plan, though the actual examination and treatment is still carried out in the school clinics. As a consequence, the cost of these services is no longer borne by the local education authority. However, the latter is still required to see that children obtain the treatment they need.

In the United States the provision of treatment has generally been regarded as the responsibility of the family and of the medical profession. Where possible, children are referred to their own physician for treatment. Where parents cannot afford the services of a private physician, they are referred to those facilities which provide treatment to needy individuals whether they be children or adults. Frequently, such facilities are outpatient clinics of a hospital. Preventive inoculations are generally provided by the local health department. Dental clinics may be provided by the health department or the schools, and the same is true of child guidance and speech correction clinics.

DENTAL PROGRAMS

Neither England nor the United States has yet found a satisfactory solution to the problem of dental caries in children, although the leaders in school health in both countries are aware of its magnitude and are attempting to devise ways for improving dental health.

The situation in England has worsened since the national health program went into operation, despite the fact that the Act which brought that program into operation states that children should be given a priority. The change is due mainly to the fact that dentists receive higher remuneration for work under the National Health Service than they do as full-time school dental officers. Consequently local authorities have difficulty in obtaining adequate staffs for their dental clinics. It is expected that in time changes will be made in the operations of the National Health Service regulations, so that increased dental treatment will be available to children. At the moment, however, the situation is bad.

In the United States, many dentists apply a sodium fluoride solution to the teeth of their young patients for preventive purposes, and in some instances this procedure has been made a part of the school health service program. A few communities fluoridate their water supplies and many others are now considering this measure. If the results of these procedures are as good as those obtained in experimental studies, a marked reduction in dental caries can be anticipated.

At present there is lack of agreement concerning the value of routine school dental examinations. Some claim that this procedure is unnecessary, since every child should go to a dentist regularly regardless of the presence or absence of decay. They believe that an educational program by teachers, designed to encourage each pupil to go to his dentist for examination and treatment, is the best procedure to follow. Others claim that dental examinations provide motivation for teachers and children and that the stimulus such examinations provide justifies the cost. Further study of the relative values of these two approaches is needed.

RELATIONSHIPS WITH SPECIAL EDUCATION

The visitor to England is likely to be impressed with the close relationship between school health services and

special education, i.e., education adapted to the particular needs of children with nonremediable handicaps or other conditions or disorders that make it impossible for them to profit fully from the regular school programs. Special classes or special schools have been organized to provide appropriate education for children with all types of handicaps, including those who are deaf or blind or with marked impairment of vision or hearing, crippled children, the tuberculous, the epileptic, children with rheumatic heart disease, diabetics, and those with speech defect or disorder. When the visitor expresses interest in school health, it frequently is suggested that he visit some of these special classes or schools.

Attention is not limited to those with physical defects. The school medical officer is responsible for identifying pupils who are mentally retarded and for formulating recommendations that go directly to the local education authority. In practice, teachers pick out the children for special examination for mental subnormality or mental defect. In some instances psychologists are available to assist the school medical officer, but this is not true in the majority of communities. To qualify himself for this type of work, a school medical officer takes a special course in mental examination. At least one physician serving each local authority must have had this special training.

In the assignment of children to special schools, consideration is given to social factors. Thus, one child with diabetes may be sent to a special school for a period of time because of poor home conditions, while another child with a comparable condition but better home conditions may be cared for in a regular school.

Educational programs are provided at hospitals and sanatoria where children are undergoing long-term treatment for chronic conditions.

The close relationships between school health services and special education in England result from the fact the legislation which constitutes the foundation for school health services places responsibility for the "ascertainment" of children requiring special education in the hands of the school medical officer. This legislation also makes it mandatory for the local education authority to provide the types of special education that are needed.

In the United States special education frequently is organized as a separate department, and most state departments of education employ one or more specialists to give leadership to programs of special education. In a similar manner most state departments of health have a division or bureau which gives particular attention to the identification and care of crippled children. Both groups work closely with those responsible for school health services, the degree of coördination depending to a great extent on the personality and ability of the individuals involved.

The identification of mentally retarded pupils usually is a responsibility of classroom teachers and psychologists. In many communities, guidance personnel or visiting teachers help with the identification of children in need of special school provisions because of social or emotional problems.

PROBLEMS FOR THE FUTURE

School health services in England and the United States have developed side by side, each concerned with the health of that fraction, approximately one-fifth, of the population which is of school age. In each country progress has been made and many children have received appropriate care because of the programs of examination and follow-up. The essential differences have been in administration and in treatment, England having a national program, whereas the United States has 48 different pro-

grams; and England placing responsibility on schools to secure or provide treatment, while the United States generally places this responsibility with parents or with the facilities provided for the treatment of needy individuals of all ages.

These differences are related partly to different national and state governmental patterns and partly to differences in medical practice, public health procedures, and educational philosophies. No need exists for one country to imitate the other, but each needs to find better ways, if possible, to coördinate medical, educational, and public health interests in furthering the health improvement of children.

Both countries would benefit from a planned evaluation of the results of school health services. That progress has been made, no one doubts. But how much progress? And how can the remaining problems best be solved? Are procedures as effective as possible and is the organization efficient? Are the contributions of teachers, parents, private practitioners, and voluntary agencies being fully utilized in a coordinated manner? In both countries records are kept of the number of pupils examined and of the conditions uncovered by examinations. But in neither country do statistical reports help one to determine what has been accomplished in terms of child health improvement. It is to be hoped that the future will see planned efforts to evaluate the results of school health services.

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1. Underwood, J. E. A. School Health Service in England and Wales. *A.J.P.H.* 36, 7:703–710 (July), 1946.
2. National Committee on School Health Policies. *Suggested School Health Policies.* New York: Health Education Council, 1945.

A Historical Item on Ventilation

A number of copies of *Ventilation—Report of the New York State Commission on Ventilation,* published in 1923, have been made available to the American Public Health Association for free distribution to permanent depositaries, particularly health departments and university libraries. A "first come, first served" priority will be followed in answering requests.

The volume's chief value is historical, recording early efforts to apply scientific methods to a study of schoolroom ventilation. It has only limited value for current practice. C.-E. A. Winslow, Dr.P.H., was chairman of the Commission and George T. Palmer, Dr.P.H., chief of investigating staff.

Requests should be sent directly to the Association.

Designs for Evaluation Needed in the School Health Services Field*

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RECENTLY, the Children's Bureau has noted an increased interest on the part of administrators in subjecting the conventional child health services to critical review.[1] All of us would agree that school health services are urgently in need of evaluation. When administered by a health department, more money is expended for them than for any other single function, an estimated minimum of $1 per annum per school child.[2] Despite a unanimity of opinion as to the objectives of a school health service, there is divergence of opinion as to the methods and means of attaining these objectives. Many school health routines are followed simply because they have never been seriously questioned. As an example, one of our most advanced and prosperous states operates today under a law virtually unchanged since its passage in 1913.

The medical and public health sciences have been confronted with similar situations in the past. Modern clinical medicine was born when a group of French physicians, among them Pierre Louis, subjected tradition to the hard judgment of facts. It does not seem inappropriate to quote Louis at this point. If, in the quotation, the term "school health services"† is substituted for the term "Therapeutics," his words have a most modern ring:

> Therefore, we must do other things than we have done until now. It is to the method, or rather to the lack of all method, that the present state of Therapeutics can be ascribed. Let there be the willingness to devote to observation the care and time that it calls for; then let the facts be rigorously analyzed, so that they can be counted (it is impossible to predict without grouping them, without counting them); and Therapeutics will stride ahead no less surely than other fields of science.[4]

Some of the evaluation studies which have contributed to advancement in the field of school health have been previously outlined. The number which fulfil Pierre Louis' criteria is pitably small. The purpose of this paper is to review critically the conventional methods for evaluating school health services and to suggest certain new approaches.

The methodological problems involved in the appraisal and evaluation of public health work have been well summarized in the proceedings of the Pittsburgh Conference of the Public Health Study Section of the National Institutes of Health.[5] In his contribution to this conference, Hiscock pointed out that there are two commonly used approaches to surveying school health programs: one related to the health status of school-age

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* Presented before the School Health Section of the American Public Health Association at the Seventy-ninth Annual Meeting in San Francisco, Calif., November 1, 1951.

† "School health services," as used in this paper, refers to services for health protection and improvement as outlined in *Suggested School Health Policies.*[3] The case finding and follow-up aspects of this service will be referred to exclusively. Evaluation of the educational aspects of a school health program has been discussed in a previous paper.

children, another directed toward the degree to which the program meets currently recommended practices.[6]

The custom of matching practices against recommended standards is widely applied in public health[5] and in appraising the quality of medical and hospital care.[7, 8] It is practically the only method used to evaluate education services.[9] Ordinarily, observation, interview, and questionnaire are employed to obtain information, which is then matched with published recommendations. Some of the more recent and better known publications which discuss school health policies are listed among the references to this paper.[3, 10-15]

Evaluation of services by these means is based on the assumptions that the standards themselves are valid and that their mere existence will necessarily produce desired results. However, in the school health field, recommended standards are little more than well directed and reasonable guesses which have never been validated against the results themselves. If this kind of evaluation had been applied to clinical medicine in 1800, it would have indicated that the very highest quality of service was being given at that time. These factors limit the usefulness of standards as a means of evaluation.

The health status of school-age children seems to offer another easy method of appraisal. However, factors such as the adequacy of medical care and the socio-economic status of a community probably influence health status to a greater extent than the school health service itself. Furthermore, vital statistics are not too helpful as measurements of health status at school age, and in many communities such data cannot be related directly to a school district population. A minor exception to these objections exists in the case of preventable diseases such as diphtheria, pertussis, and tetanus.

School health service statistics themselves have sometimes been used to evaluate a school health program, particularly in conjunction with standard-matching. This evaluation method is open to the serious objection that volume alone is no criterion of quality. Often the reverse is true, namely, that quality is inversely related to volume. Even when the practice measured is apparently desirable, such as the presence of a parent at a school examination, no indication of how the practice is utilized can be obtained from the percentage figure itself.

Figures on the number of defects found and corrected are often part of routine school health reports and have been cited as pointing to the values of the service. Such figures must be viewed with great caution. Too often they neither weigh the seriousness of the defects specified nor indicate the nature and extent of the corrective action taken. A "cardiac defect" may mean anything from a basal systolic murmur, clearly functional in nature, to an advanced case of rheumatic heart disease. "Correction of a defect" may mean that parental action has been taken to correct a condition which the school health service knew nothing about, or that a condition formerly listed as a defect has "corrected" itself spontaneously. Furthermore, the tendency to impress the budget director with the magnitude of our efforts is a temptation to which statistics of "defects found and corrected" lend themselves well. In spite of these factors, the basic premise of this approach to evaluation has merit and is worthy of further exploration.

The principal objectives of a school health service (as used in this discussion) are to find children in need of medical attention and to see that they get the best attention available in their community. Stated in its converse, these objectives are not being reached if children who need medical attention are not being found and if children referred

for medical attention do not seek it or do not need it. The objectives themselves are capable of quantitative measurement, provided care and time are devoted to the collection of facts which can be rigorously analyzed. With a minimum of effort most well organized communities can collect many of these facts.

The question of whether children who need medical attention are being found can be approached in several ways. One way is to match the results of routine health appraisals against school health records. Many types of examinations can be utilized for this purpose: routine school examinations done at a specific grade level, work permit examinations of minors, industrial preplacement examinations, health examinations by voluntary health agencies or camps, etc. Studies of this type have been previously reported.[16, 17] At least four conditions must be observed in setting up such a study:

1. The school health records must be accurate and complete.
2. The school sample examined must be representative of the school service being evaluated.
3. The examination itself must be as definitive and thorough as possible.
4. The diagnoses must be expressed in medically acceptable terms and substantiated by clinically acceptable criteria.

The findings of Selective Service examinations offer another way of approaching this question. When compared with school health records, they indicated, in one study, that the medical findings of rejectees were predictable.[18] One other brief report is available implying that the rejection rate in North Carolina was related to good medical supervision in childhood.[19] It would be most instructive to repeat such studies on a larger scale. Even without going to the trouble of matching individual findings against individual school health records, local Selective Service statistics could be of great value. They might point up the local health problems which a school health service needs to meet. They might also be used to evaluate different types of school health service or the absence of school health services in communities where socioeconomic status and health facilities are comparable. Some major changes in the processing and standardization of Selective Service statistics would be necessary in order to do these things.[20] This would appear desirable at the present time, since such changes could be designed so as to improve the efficiency of a long-term civil defense program.

Another way of approaching the question is by an analysis of children seeking medical attention from community agencies and practising physicians under their own momentum rather than because they have been referred. If such children are found to have symptoms and signs of long duration, the question of whether or not these were known or could have been discovered by the school health service can be answered affirmatively or negatively. This kind of evaluation can start on a very simple level, such as the analysis of children with rheumatic fever, or it can be applied to children who consult otologists or ophthalmologists. A single case can be used as an educational tool. The case of the child with chorea, whose teacher had noted an increasing nervousness for several weeks but had done nothing about it, can be more instructive than several seminars, institutes, or workshops. If the coöperation of a few interested physicians and a pediatric outpatient department can be enlisted, the study can be broadened and strengthened. There seems no inherent reason why medical information from the family physician or hospital cannot serve routinely as an impetus to review the effectiveness of the school health service in a given case. We have laid the groundwork for such a study in Rochester and should be able to report

on our experience in a year or two.

A final suggested approach to this question is through cases of absenteeism due to disease. Here, too, evaluation could be made routinely of the effectiveness of the school health service in discovering or preventing the cause of every extended or repeated absence. Statistics of absenteeism due to disease have never been used to their fullest extent in the school health field. The Public Health Service publishes and analyzes selected industrial sickness absenteeism statistics every quarter. A similar service might be rendered for schools, provided the statistics could be obtained in comparable and unbiased form. The practice of allotting school appropriations on the basis of average daily attendance affects school administrators in different ways and these differences are reflected in school absenteeism statistics. In addition, it has been shown that socio-economic and environmental factors have considerable influence on illness absenteeism even within the same city.[21] Despite these and other variables, the relationship of sickness absenteeism to the school health service is worthy of exploration, particularly along lines that would compare rates in communities with different types of school health service, as suggested in the case of Selective Service statistics.

The question of whether children referred for medical attention actually seek such attention can be answered by a simple check on the referrals made. This procedure is partially reflected in the percentage of "defects corrected." However, as noted, the percentage figure itself frequently includes variables other than the one which it is desirable to measure. If the total number of referrals actually made by the school health service and the number of such referrals on which action is taken are known, the resulting percentage will become an accurate measurement. If such a measurement is to evaluate school health services, there must be no community barriers to medical care which cannot inherently yield to public health nursing counsel—such as finances or lack of facilities. If these barriers exist, the measurement is more likely to reflect them. A well conceived plan, however, could make allowances for such barriers and could put this measurement to good use.

The question of whether children referred for medical attention actually need such attention can be answered by a careful analysis of the referrals and their results. This is a very simple matter in the case of dental care, where the universal need for attention can be taken for granted. In the case of children selected by visual and auditory screening tests, the matter is scarcely more difficult, though acceptable standards must be set and careful records kept. In the case of children referred for other reasons, the evaluation is somewhat more complicated, since careful, individual and impartial judgment must be rendered in order to decide whether the referral was or was not justified. At least three conditions must be met before such a judgment can be made:

1. Written records must indicate the diagnostic impression of the referring physician and his reasons for referral; as well as the diagnostic findings, impression, treatment, and recommendations of the physician to whom the case was referred.

2. Diagnoses must be expressed in medically acceptable terms and substantiated by clinically acceptable criteria.

3. A careful clinical judgment must be made from the records of the case and, if necessary, the child reëxamined. If there is disagreement between the private and school physicians, one or the other must be judged correct. This judgment can only be made by a physician who has had adequate preparation and experience in pediatrics and school health. Makover has successfully applied an analogous approach to the evaluation of the quality of medical care in group practice.[22]

It is essential that the interest and

coöperation of community physicians be gained in order to analyze both the need for and the securing of medical care in relation to the effectiveness of the school health service. Physicians in private practice must complete and return records to the school and must extend the same professional courtesies to the school physician as they would to any other medical colleague. This is equally true when applied to the relationship of the school physician with the physician in private practice.

We have begun a study of this nature in Rochester, and we do not anticipate that it will require any more time on the part of our staff nurses and physicians. We plan also to relate our material to the manner in which the symptom for which the child was referred came to our attention: via routine admission examination, referral from the teacher, etc. In this way we hope to discover what aspects of our program are bearing the most fruit. A similar idea was successfully applied in the Astoria Study in New York City.[15]

This leads us to the final and perhaps the most important point of this discussion, which is the suggestion that the effectiveness of school health services be evaluated in schools and school systems with different types and degrees of nursing and medical services and in school systems with no health services at all. Only in this way can we obtain final answers to such questions as whether an education department or a health department can best administer school health services, how often health appraisals should be undertaken, how much time a nurse should spend in school, what she should do with the time she spends there, and whether the investment of funds in school health work itself produces a worthwhile return.

It is surprising to find how often the effectiveness of "demonstrations" or new procedures has not been evaluated in objectively measurable terms by comparing the demonstration results with results in a school following the same old routines. One of the very few examples of how this kind of study can be done is one undertaken by Kaiser in 1924.[23] In order to test the value of special nutrition classes, children in such classes were compared with control groups—both while attending the "nutrition class" and one year after so-called "graduation" from the class. The results were essentially negative in that whatever gain accrued to the children in nutrition classes was no greater than might be expected, had they not attended them.

Fear of the negative result which would destroy a cherished project or undermine hard-earned gains is human and understandable. Yet it is precisely this hard-hitting, sometimes destructive kind of evaluation which school health services need today. The research studies of Pierre Louis, though they ushered in an era of therapeutic nihilism, led eventually to the growth of modern medicine.[24] Let there be the willingness, the care, and the time to evaluate services objectively and school health will stride ahead no less surely than other fields of public health science.

SUMMARY

1. The need for evaluation studies in the school health services field is discussed.

2. The common methods employed to make such studies are critically analyzed. It is contended that these methods do not measure results and for this reason are not adequate.

3. Certain new approaches are suggested and some of the conditions of study involved are set forth. The approaches suggested are:

a. The use of routine examination findings in conjunction with a review of school records.
b. The use of Selective Service examination findings.
c. The use of sickness absenteeism statistics.
d. The use of reports from hospitals and private physicians, particularly in the case of children with symptoms and signs of long duration.
e. The careful analysis of referrals made by the school health service.

4. It is contended that the most important need in the school health services field today is for objective studies designed to compare the effectiveness of school health services in communities with different types and degrees of service.

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Of What Value Are Health Inventories Filled Out by Parents?*

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A COMMUNITY School Health Education Demonstration project was carried out in San Francisco coöperatively by the Unified School District, the San Francisco City and County Department of Public Health, San Francisco State College, the California State Department of Public Health, and the Kellogg Foundation, from September, 1947 to June, 1950. During the period of this study, the physicians who were providing services to schools expressed the need for a more complete history than time permitted them to secure in the 15–20 minutes allotted to each medical examination.

To fulfil this need, the physicians, together with the nurses and other personnel working in the demonstration project, met to consider the kinds of information needed. Discussion disclosed that principals, teachers, and the health department, as well as physicians and nurses, needed specific information about children from parents. A form called the Health Inventory was coöperatively prepared to include information needed and of value to all professional staff. This form was devised to obtain from parents an appraisal of the physical and emotional health status of their child, and data on the protective immunizations received and current health practices. The Health Inventory form contained questions in ten categories of items, including those frequently appearing on school health history forms. In addition, there were items on health practices, emotional health, the child's interest and activities outside of school; and opportunity was provided for parents to request consultation for the child's health problem.

The completed draft of the Health Inventory was approved by the Central Coördinating Committee of the project. Although much skepticism was voiced by members of the Committee and others with regard to the willingness of parents to coöperate in supplying the information in this manner, and to the reliability of such information, it was decided to use the Health Inventory on a trial basis in the project elementary school and to evaluate the results. The sample included the kindergarten, 1st, 3rd, and 6th grades—which represented about 60 per cent of the children and teachers in this school of 600 pupils.

A carefully worded letter interpreting the Health Inventory, addressed to parents and signed by the health officer, superintendent of schools, and the principal, accompanied each Health Inventory distributed to the pupils by the teachers. After the parents completed the forms and returned them to the school, the data were tabulated and evaluated over a period of a year.

To determine the usefulness of the Health Inventory for teachers, a teacher evaluation questionnaire was sent in September of 1951 to the teachers who had experienced using the form.

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Following are the results of the evaluation of the Health Inventory in terms of the specific objectives which were set forth:

Information Sought	*Findings*
I. To what extent will parents coöperate by supplying the requested data to the school?	89 per cent of the forms were returned completely filled out by parents within 10 days; 93 per cent were returned by the end of three weeks.
II. Is information thus secured from parents reliable?	Immunization data were used as a criterion of reliability. Immunization data secured by other means checked practically 100 per cent with the immunization data recorded by parents.
III. Are the data obtained by use of the Health Inventory duplicated by data already available on other records in the school?	Only scanty data were available on other records in the school. The cumulative record for individual pupils duplicated some of the identifying data requested. The medical and nursing records had certain data on *only some* of the children, but not as complete data on any child.
IV. Is the Health Inventory useful as a tool for identifying children with health problems?	From the data recorded by parents, 36 per cent of the children were identified as having physical and emotional problems or both thought by the school health service staff to require follow-up.
V. Does the Health Inventory stimulate parents to request consultation with school personnel regarding physical and emotional health problems of their children?	27 per cent of the parents whose children revealed health problems requested an opportunity to discuss these health problems with professional school personnel. This means that one out of ten parents requested consultation.
VI. Is the Health Inventory useful as a tool for pointing out unmet needs in health education of individual children and classroom groups?	Health habits and health practices of individual children and classroom groups were clearly portrayed, which brought into focus the areas of health instruction that needed strengthening.
VII. Is the Health Inventory useful in stimulating the school team (administrator, teacher, physician, and nurse) to plan together for immediate and long-range programs of health services?	Better integration of health instruction with health services was inaugurated in the project school as a result of the stimulus given by the data from the Health Inventory.
VIII. Is the Health Inventory useful to physicians at the medical examination?	Data on the Health Inventory provide a good history—family background, insight into economic status, past and present health problems, protective immunization, current health habits and practices, and valuable clues to the physician for eliciting unsuspected health difficulties. This enables physicians to direct their efforts to pertinent problems and conserves time for medical examination and parent interpretation.
IX. Is the Health Inventory useful to the	It provided the physician with a broader

physician in guiding the nurse and teacher in follow-up?	base upon which to make recommendations for follow-up.
X. Is the Health Inventory useful to the physician in determining the level of protective immunization among school children?	Recorded data revealed that 78 per cent were protected against smallpox, 75 per cent against diphtheria, 61 per cent against pertussis, and 43 per cent against tetanus.
XI. Is the Health Inventory useful in integrating the services of private physicians in the school health program?	Data on the Health Inventory revealed that 77 per cent of the children received medical care from private physicians. This focused attention on the need for more active participation of private physicians in the school program and stimulated the organization of a Medical Advisory Committee of private physicians.

Since the establishment of the demonstration project, the methods and procedures developed during the study, including the use of the Health Inventory, have been inaugurated in 14 additional San Francisco elementary schools. The following are the results of the evaluation of the Health Inventory by 117 teachers with experience in the use of this form:

1. What per cent of teachers indicated that the information provided by parents on the Health Inventory was helpful?

99 per cent of the teachers found it helpful.

2. What sections on the Health Inventory were indicated by what per cent of teachers to be helpful?

Section	*Per cent Teachers*
VI—Emotional Health	76
V—Symptoms recently noted by parents	66
II—History of past illness	58
VII—Health Practices	56
All Sections helpful	8
Teachers failing to indicate helpful sections	8

3. What sections on the Health Inventory were not helpful?

VI—Emotional health	11
III—Immunization	9
VIII—Health Practices	8
IV—Tuberculosis: Exposure, skin test, and x-ray	7

4. Ways in which teachers indicated that they used the information on the Health Inventory.

Referral of children for health services	74
Teaching	74
Teacher-parent conference	50
Teacher-nurse conference	79
Counseling	24

5. Additional comments on the Health Inventory made by one-third of the teachers can be summarized as follows:

a. The data give the teachers a better understanding of the child's health status, his needs and capabilities, and help the teacher to adjust the work assignment, seating, and physical activities.

b. The information gives the teacher a better understanding of the home and home influences on the child and thus helps to improve the teacher-child and teacher-parent relationships.

c. It is helpful in curriculum planning for class discussion on health subjects such as rest, nutrition, health practices and habits, and dental health.

Nine teachers commented that the section on emotional health was not helpful because the

parents evaluated the child's behavior in a different light from that of the teacher and either overrated or underrated the emotional adjustment of the child.

SUMMARY

1. The Health Inventory provides a rich source of information about each pupil's health which can readily be made available and accessible to all professional school personnel.

2. The Health Inventory utilizes an often neglected source (parents) for securing information about pupils' health.

3. As a method of health appraisal, the Health Inventory, together with other methods, such as teacher observation, the teacher-nurse conference, and the medical examination, provides a broader base on which recommendations for individual children can be made and on which programs can be planned to meet the needs of children.

4. It provides a method for parent participation which is often overlooked or neglected. It encourages parent-school coöperation and strengthens this relationship. In giving parents an opportunity to review and evaluate at one time a broad scope of the health status of their child, the Health Inventory has educational value for the parents themselves. This was particularly noted in the area covering the child's emotional health.

5. It provides a means for identifying children with health problems.

6. It is of value in bringing into focus for the classroom teacher the unmet needs in health instruction.

7. Because it portrays the kind of resources (private or community) for medical and dental care, and the extent to which these are utilized for children, private physician and dentist participation in the program is stimulated.

8. In a recent teacher evaluation of the health inventory, 99 per cent of the teachers indicated that the information provided by parents was helpful.

The areas of the Health Inventory which were helpful to over 50 per cent of the teachers were the sections relating to:

a. Emotional health
b. Signs and symptoms recently noted by parents
c. History of past illness
d. Health practices

Approximately 75 per cent of the teachers surveyed indicated that they used the information for:

1. Referral of children to health services
2. For teaching purposes
3. For teacher-nurse conferences

Fifty per cent also utilized the information for teacher-parent conferences, and 24 per cent used it for counseling.

The Status of Serologic Typing in the Family *Enterobacteriaceae*

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SEROLOGIC typing of enteric bacteria has advanced so rapidly in the past few years that it seems desirable to summarize the progress made in the study of the group. This paper is an attempt to indicate the present status of typing in the various groups and genera of the family and to point out those subjects most in need of further clarification.

Within certain groups of the enteric bacteria, serologic typing is so well understood and so universally practised as to need no comment. In the case of the *Salmonella* group, thanks to the pioneer work of White[1] and the systematic studies of Kauffmann,[2] serologic typing based on the recognition of the O and H antigens of the organisms has come into general use. The antigenic composition of the group is so well known that workers encounter little or no difficulty in the orientation of newly recognized types. To date, more than 200 different antigenic types have been described.

The multiplicity of types and the numerous sera needed for the delineation of *Salmonella* cultures make it unprofitable to attempt exact typing in the average laboratory. Fortunately, methods are available which permit even the smallest laboratories to recognize cultures as members of the genus and to identify the principal human pathogens (Kauffmann and Edwards[3]; Edwards[4]). Cultures may be forwarded to one of a number of laboratories located throughout the United States for exact type determination. The objection may be raised that *Salmonella* types are so numerous and so variable that typing is of no value. While it has been demonstrated by Edwards, Moran, and Bruner,[5] and by Bruner and Edwards[6] that it is possible to transform both O and H antigens of *Salmonella* cultures and that the changed forms produced *in vitro* may occur in nature (see Edwards and Moran[7] and Edwards, Barnes, and Babcock[8]) these changes by no means invalidate the epidemiologic significance of serologic typing. Although a large number of *Salmonella* types have been recognized, only a small number are found frequently in enteric infections, and this simplifies typing of the bacteria.

In the *Shigella* group, the situation with regard to serologic typing has improved greatly since Boyd[9, 10] established the presence of specific somatic antigens in the various types. Due to his work and to the valuable contributions of Wheeler,[11] Large and Sankaran,[12] and others, classification of the bacteria on the basis of specific and nonspecific somatic antigens has gained wide acceptance. Within the past five years a Shigella Commission was created by the International Association of Microbiologists. With Brigadier Boyd acting as chairman, the Commission has fostered the study of the shigellae and has proposed a classification based on the present knowledge of the group. Many points of controversy have been

settled and a number of new types have been accepted, tentatively accepted, or placed under study (Courtois and Vandepitte [13]; Ewing, *et al.*[14, 15]).

There is still much to be learned about both the *Salmonella* and *Shigella* groups. The antigenic relationships existing between these two groups and their relationships to other groups of enteric bacteria are in need of further clarification. Antigenic changes due to discontinuous variations, to apparent mutations, and to permanent loss variations need further study. The physical, chemical, and serologic properties of the heat-labile somatic antigens should be investigated. These labile somatic antigens occur frequently in the *Shigella* group as noted by Madsen,[16] and occasionally are accompanied by capsule formation, according to Ewing, Edwards, and Hucks.[17] Little is known of their antigenic properties. It is possible that the preparation of sera for the recognition of thermolabile somatic antigens, as is done in the case of Vi antigen in the *Salmonella* group, would be of value in the characterization of *Shigella* cultures. The chemical properties of the heat-stable antigens of rough cultures and their relationship to the O antigens of smooth cultures deserve further study. The chemical nature of the flagellar antigens also should be more closely investigated.

Systematic knowledge of the *Escherichia coli* group has increased rapidly within the past 10 years. Since Kauffmann [18, 19] published his original schema, the work has been extended greatly by Vahlne,[20] Knipschildt,[21] Wramby,[22] and others, until at present approximately 125 O-groups are known. Because of the large number of sera which are necessary for successful typing and owing to certain technical difficulties, the complete typing of *E. coli* strains has been confined to a comparatively small number of laboratories. Recognition of H antigens often causes difficulty, since many cultures of *E. coli* are persistently feebly motile and the H antigens are poorly developed. Heat-labile somatic antigens occupy a prominent place in the recognition of *E. coli* types, and difficulties in the preparation of suitable sera for these antigens and in the recognition of the antigens must be overcome.

The possibility of using chemically treated cells for the production of sera for the recognition of L antigens should be further investigated. This method has been used with marked success in the preparation of Vi serum, noted by Peluffo.[23] It is also applicable to the preparation of serum for the detection of B antigens, mentioned by Ewing, Edwards, and Hucks [17]; and for the detection of A antigens (according to Edwards in unpublished data). It seems probable also that chemically treated suspensions would be useful in the avoidance of H-agglutination in testing for heat-labile somatic antigens in cultures which flocculate readily in the presence of H agglutinin.

The value of definitive typing of *E. coli* cultures is well illustrated by results recently obtained in the study of infantile diarrheas in England, Holland, the Scandinavian countries, and the United States. Due largely to the work of Bray,[24] Bray and Beavan,[25] Giles and Sangster,[26] Giles, Sangster, and Smith,[27] Smith, Galloway, and Speirs,[28] Taylor, Powell, and Wright,[29] Rogers, *et al.*,[30-33] Taylor,[34] and Kauffmann and Dupont,[35] it has become evident that certain *E. coli* types play a prominent role in the causation of infantile enteritis. While only two serologic types of *E. coli* have as yet been definitely incriminated, it seems likely that additional types will be found which have a definite relationship to the disease.

In the *Proteus* group, only two of the biochemically defined species, *Proteus vulgaris* and *Proteus mirabilis*, have been subjected to intensive antigenic study. These two forms have been studied by Perch [36, 37] and by Belyavin, Miles, and

Miles.[38] Whether or not this work will lead to the recognition of *Proteus* strains as a cause of enteric disease remains to be determined. Certainly no progress in that direction can be made without a basis for the detection of specific types within biochemically defined groups.

For many years study of the *Klebsiella* group was largely limited to cultures from the respiratory tract and from inguinal granuloma. The majority of the cultures derived from those sources were divisible into six capsule types which were distinguishable by agglutination, precipitation, and quellung reactions. It had long been obvious that many cultures classified as *Aerobacter aerogenes* were indistinguishable from *Klebsiella* strains by cultural or biochemical methods. The widespread use of sulfonamides and antibiotics in infections of the urinary tract resulted in the isolation of capsulated, Gram-negative rods from a higher percentage of urinary infections than previously was the case. This naturally stimulated interest in the group and it again became the subject of intensive work. Forty-eight additional capsule types recently have been determined in the *Klebsiella-Aerogenes* group, according to Kauffmann,[39] Brooke,[40] and Edwards (unpublished data). Thus, a total of 58 capsule types has been recognized, so that the situation approximates that found in the pneumococcus group. Also, as in the pneumococcus group, some of the capsule types are more or less closely related. Almost all of the newer capsule types occur in urinary infections, but occasionally they are isolated from the respiratory tract. One type established in the United States seems to be associated with intestinal infections and has been found repeatedly in stools (see Worfel and Ferguson[41]).

While the study of the capsule types of *Klebsiella* has progressed rapidly, knowledge of the O antigens of the group still is limited. Three O-groups were delineated by Kauffmann,[39] but the O antigens of many strains studied by him could not be determined, since rough forms occurred in many cultures. The O antigens of these cultures deserve further study even though practical differentiation rests upon recognition of capsule types. Further work on the relationship of slime antigens to capsular antigens should be done. There also exists the problem of the classification of the motile *aerogenes*-like cultures. In *Bergey's Manual*,[42] the genus *Klebsiella* is limited to nonmotile forms, while in the genus *Aerobacter* both motile and nonmotile forms are listed. It seems clear that the nonmotile forms of both genera should be combined in one group, but the relationships of the motile forms have been studied insufficiently to place them in a definite category.

Before launching upon any discussion of serologic differentiation of paracolon bacteria, it first is necessary to define the organisms included in that group. In general, the term paracolon is used here as it was defined by Borman, Stuart, and Wheeler.[43] In it are included the various types of coliform bacteria which ferment lactose only upon prolonged incubation. Often, on account of other biochemical or because of serologic characteristics, forms which apparently do not ferment lactose are included. The paracolon groups include a variety of biochemical types ranging from those which superficially resemble *Shigella* cultures, through the intermediate groups, to those which resemble *E. coli*. When such cultures are subjected to IMVIC tests, the organisms are divisible into a number of groups. Practically all possible combinations of results with these four tests are found. As other tests are added, such as ability to produce H_2S and to attack various fermentable substances, the number of groups into which the bacteria are divisible is multiplied.

The groundwork for the serologic study of these paracolon groups was

laid by C. A. Stuart and his associates.[44-48] In a series of papers, they demonstrated that numerous serologic relationships existed among strains which fell into the same biochemical group but that intergroup relationships were comparatively rare. While Stuart made no attempt to build up classifications based upon the constituent antigens of the bacteria, his work pointed out the direction that such attempts should take and established the approximate boundaries of the various serologic groups. The building up of serologic classifications through the determination and characterization of antigens remained to be done. It should be emphasized at this point that our knowledge of the antigens of paracolon bacteria is still extremely fragmentary and that some of the groups defined by Stuart and his associates still remain unexplored.

It has been found that the *Escherichia*-like paracolon cultures, that is, those forms which produce indole and which are Voges-Proskauer and citrate negative, usually can be grouped and often can be typed with the sera employed in the identification of typical *E. coli* cultures. This statement applies both to aerogenic and anaerogenic cultures, so that cultures which bear a superficial resemblance to shigellae may be grouped or typed as though they were *E. coli* strains. Apparently the lack of avidity for lactose has little effect on the antigenic properties of the cultures, as shown by Frantzen.[49] On the contrary, little is known of the serologic properties of indole-producing paracolon cultures which are Voges-Proskauer positive.

It should be noted that the Shigella Commission[50] withdrew the cultures previously classified as *Shigella alkalescens* and *Shigella dispar* from the genus *Shigella*, and these have been placed in a special Alkalescens-Dispar group. These cultures, many of which possess biochemical characteristics unlike those of typical *Shigella* strains, all contain O antigens as well as heat-labile somatic antigens which are found in typical *E. coli* strains. The group is regarded as being closely related to the *E. coli* group, into which it may eventually be merged.

Almost nothing has been done in the systematic study of the motile paracolon cultures which resemble *Aerobacter* strains, i.e., cultures which fail to produce indole but which are Voges-Proskauer and citrate positive. It should be remembered that, in addition, the rapid lactose-fermenting counterparts of these cultures, the motile cultures at present classified as *A. aerogenes*, have not been satisfactorily classified. It seems quite possible that, as in the case of *Escherichia* strains, the slow lactose-fermenting forms would be classifiable by diagnostic sera produced from cultures which promptly ferment lactose. While this is mere conjecture, it would seem to be the logical point of attack.

Among the citrate positive paracolon cultures are forms which are anaerogenic or produce only a bubble of gas from glucose. They fail to ferment lactose or sucrose promptly or to produce H_2S and, although they are usually motile and usually ferment adonitol, they are often submitted for diagnosis as suspected shigellae. These cultures compose the 29911 group of Stuart, *et al.*,[47] more recently designated as the Providence group (see Kauffmann[51]). They have often been isolated from institutional outbreaks of infant diarrhea but, since serotypes had not been established within the group, their relationship to enteric disease was not established. Recent work on these cultures reveals that they may be divided into a relatively large number of O-groups; approximately 50 such groups have been established, according to Ewing in unpublished data. Complete typing as yet is impossible, since the heat-labile somatic antigens and the H antigens have not been characterized. In view

of the interest recently developed in this group and the investigations now in progress, it seems likely that a satisfactory classification will soon be achieved.

In addition to the aforementioned paracolon groups, cultures which more or less closely resemble salmonellae are often encountered. These organisms possess the usual biochemical attributes of *Salmonella* strains except that they ordinarily ferment lactose, sucrose, and/or salicin after prolonged incubation. Such cultures generally may be divided into two groups, the Bethesda-Ballerup group and the Arizona group.

The Bethesda-Ballerup group originally was considered as two separate entities: the Bethesda group, which was typified by a number of serologically identical cultures isolated in Bethesda, Md., (Edwards, West, and Bruner [53]), and the Ballerup group, of which the type strain was the organism originally called *Salmonella ballerup*.[53] The latter organism had no serologic relationship to *Salmonella* strains except that it contained Vi antigen. It soon became evident that many cultures serologically related to the Ballerup type fermented lactose or sucrose. For this reason the organism originally described as *S. ballerup* was removed from the genus *Salmonella* and became the type strain of a paracolon group.[54] Further study revealed that O and H relationships between the Bethesda and Ballerup groups occurred so frequently that they were merged into one group.

At present, 32 O-groups and 74 H antigens are recognized (by West and Edwards in unpublished data). Since these O and H antigens are found in various combinations, a large number of serologic types have been established. Members of this paracolon group are isolated frequently from stools. Originally they were thought to produce enteric infections, but further study indicates that they are largely banal forms. This group constitutes a distinct nuisance in diagnostic work, since these organisms cannot be eliminated rapidly from the genus *Salmonella* by biochemical methods and they are very frequently encountered in diagnostic work. Pooled and polyvalent sera have been devised which are very helpful in their recognition, discussed by Galton and Stuart.[55]

The last group of paracolon bacteria to be mentioned is the Arizona group. These cultures closely resemble salmonellae in their biochemical properties, but the majority of the cultures ferment lactose within 2 weeks' incubation. Some cultures ferment the sugar within 24 hours, while other cultures fail to produce visible acid or gas even after prolonged serial transfer in lactose broth. Gelatin liquefaction and inability to ferment dulcitol are constant characteristics of the strains. Twenty-six O-groups and approximately 75 serologic types are known.[56] Many of the O antigens are identical with O antigens occurring in the genus *Salmonella*, and the H antigens are more or less closely related to H antigens found among the salmonellae. Both monophasic and diphasic forms occur, but the monophasic types are predominant. As a whole, the group stands very close to the genus *Salmonella* and often strains must be placed arbitrarily in one group or the other.

The Arizona cultures are unique in that they are the only group of paracolon cultures which undoubtedly produce disease regularly and, further, in that the same serologic types occur in infections of cold-blooded animals, of fowls, of the lower mammals, and of man.[57, 58] The organisms occur frequently in reptiles, in which they produce pronounced pathologic changes and fatal infections. In fowls the organisms occur frequently and produce severe infections with a high mortality rate. The spread of the infections can be traced

from flock to flock and from hatchery to hatchery through the media of infected eggs and infected young stock. The spread of certain of these paracolon types had been traced from coast to coast in the United States. It would have been impossible to make these epidemiological observations without methods of accurate type determination. The Arizona group had been found infrequently in man, but has been isolated repeatedly in sporadic cases and in outbreaks of infection.[58] In man the infections seem fully as severe as those produced by salmonellae, and fatal infections have been recorded. In the instances in which a number of persons were involved, the majority of the cases required hospitalization, and rather prolonged gastroenteritis was followed by rises in agglutinin titers.[59]

In conclusion, it should be said that, although in the foregoing discussion emphasis has been placed upon groups of bacteria, it must be remembered that these groups are arbitrarily established and that intermediate strains frequently occur. The enteric bacteria are made up of a series of interrelated types which are not readily susceptible to division into groups and their division into such groups is only for the convenience of the worker who is studying the family.

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Community Health Education Resources

The University of Buffalo, in cooperation with a number of community agencies, will hold a Summer Conference on, "Community Resources for Health Education," July 15–16, at the University of Buffalo. Panels and speakers will supplement their discussions by acting as leaders of smaller workshop groups on such topics as, "Our Local Needs for In-Service Training," "Formulating a School Policy for Relationships between Schools and the Voluntary Agency." Field trips will point up the use of the community as a source of materials and learning experiences for health education. The conference is designed especially for teachers, school administrators, personnel in public health, guidance, elementary education, Parent-Teacher Association members.

There is no charge for the conference. The public as well as professional workers in health or related fields are invited. All sessions will be held in Norton Union on the University Campus.

An Outbreak of Conjunctivitis Due to Newcastle Disease Virus (NDV) Occurring in Poultry Workers

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NEWCASTLE disease, a disease of world-wide distribution in fowls, was first recognized as a human infection in 1943, when F. M. Burnet[1] reported a case of conjunctivitis in a laboratory worker, who became infected by the accidental introduction of infectious material into the conjunctival sac. The diagnosis was confirmed by virus isolation. Since that time, 8 cases of human infection in which the virus was isolated have been reported.[2-6] Each of these cases was manifested as a conjunctivitis. Two cases were reported by Anderson in Australia in 1946, and the remaining 6 cases, all from the United States, were reported in 1949 or later. The first case known in this country occurred in April, 1947, when a veterinarian developed conjunctivitis following the accidental splashing of Newcastle disease virus into his eyes. The virus was isolated from eye washings.[14]

Only 2 of these 8 cases occurred naturally. These 2 cases were reported by Ingalls,[4] one in a broiler plant operator, and the other in a veterinary student. In the case reported by Hunter,[5] the virus was also isolated from the serum of the patient taken on the second day, approximately 7 hours after a shaking chill.

Reports of outbreaks of multiple cases are not numerous. Yatom[7] reported 17 cases of conjunctivitis among kitchen workers handling poultry in the Agricultural School at Mikveh, Israel, where an outbreak of Newcastle disease had recently occurred in fowls.

Howitt[8] reported on the presence of neutralizing antibodies in sera from human beings in contact with fowl and suggested the possibility that Newcastle disease virus was responsible for atypical central nervous system infection in man. No virus was isolated from these cases. A restudy of the sera indicated that the Newcastle virus neutralizing factor was destroyed by heat.[9]

Bawell[10] reported the apparent isolation of a strain of Newcastle disease virus from excised lung tissue of a case of virus pneumonia followed by chronic atelectasis. However, the virus was lost on the second series of eggs inoculated.

The purpose of this report is to present the findings obtained on an outbreak of 40 cases of conjunctivitis occurring in workers in a produce plant

where poultry is eviscerated, processed, and canned.

The outbreak first came to the attention of the Minnesota Department of Health and the Division of Veterinary Medicine of the University of Minnesota on March 7, 1951, and an investigation was instituted immediately. The plant involved is located in a rural Minnesota community with a population of about 1,500 persons. Approximately 300 workers, all adults, are employed at the plant, about 90 of whom work on an eviscerating line. Among this group there were 40 known cases of conjunctivitis. Only one male worker developed symptoms, but the exposed personnel was mostly female. The cases were limited to persons employed on evisceration. Since there was considerable turnover of employees in this group, the total number of exposed persons could not be determined. There were no secondary cases known to occur in family contacts, nor were there any other known cases of conjunctivitis occurring in the community.

Onset in the first case occurred February 7, and in the last case, April 5. There were no cases with onset between March 15 and March 28. Evisceration of chickens began on February 5 and continued until April 6, except for a period between March 12 and March 26, when turkeys were handled. As can be seen by Table 1, cases were scattered throughout the period, with a concentration of cases in the week of March 28 to April 3, when 15 cases occurred.

Symptoms consisted of irritation of the involved eye, lacrimation, redness and some swelling of the conjunctiva, but no involvement of the cornea; edema of the lids was present in varying degree. Photophobia or visual impairment was not common. Preauricular adenitis on the affected side was present in about half the cases. No constitutional symptoms were noted and headache was uncommon. Usually only one eye was involved. Of 19 cases on which detailed history was obtained, the left eye was involved in 13, the right in 4, and both eyes in only 2. Nine of these 19 cases gave a definite history of having something splashed into the eye previous to onset of conjunctivitis. The infection did not cause any time loss from work for the employees. Symptoms as a rule lasted only 3 to 4 days; however, in one instance they persisted for 3 weeks.

TABLE 1

Cases of Conjunctivitis Occurring in Poultry Workers as Distributed by Weeks During 1951

Period	*No. of Cases*
February 7–13	5
February 14–20	4
February 21–27	4
February 28–March 6	3
March 7–13	8
March 14–20	0
March 20–27	0
March 28–April 3	15
April 4–10	1
Total	40

A review of the company records for 1950 showed that 10 cases of conjunctivitis were reported during that year. These also were limited to workers on the eviscerating line. Two of the 1950 cases had recurrent attacks and one of them also had conjunctivitis in 1951. Intervals between attacks were 3 months, 5 months, and 8 months respectively.

In this plant, poultry is canned for commercial sale. Frozen "New York dressed" chickens, purchased in carlots and shipped in from various parts of the country, are kept frozen until the time of canning, when they are thawed in large tanks by running water at a temperature of about 50° F. until easily handled. However, ice is often still present in the viscera at the time of handling. After thawing, the fowls are then passed along the eviscerating line, hanging from and propelled by an "endless" conveyor chain. Each worker has specific duties in cleaning and eviscerating the birds, so that in about 30 minutes a bird reaches the end of the

line completely eviscerated, washed, and weighed. During the process there are opportunities for the splashing of contaminated material. The hands and arms of the workers become soiled with material from the carcasses and the viscera of the chickens. The only facility readily available for handwashing for this group was a single wash basin with hand-operated faucets, and it was observed that proper washing of hands with soap and water was not carried out when employees left the eviscerating line. Since there were no first-aid facilities for treatment of individuals who accidentally splashed material into the eye, they did not report for treatment until there were actual symptoms of conjunctivitis. Thus, in addition to introduction of the virus into the eye by splashing or spraying of infected material, there was also the possibility of introduction of such material by contaminated hands. Each worker works approximately an 8 hour shift.

Specimens of material for bacteriological studies from the eyes of 7 acute cases were collected by rubbing a cotton swab over the conjunctiva and placing specimens in blood agar slants. From these cultures the bacteria isolated were bacteria not generally considered as being causative agents of conjunctivitis. Specimens obtained in a similar manner from 10 cases were placed in 10 per cent horse serum in broth and were agitated and frozen for virus studies.

With the coöperation of the management and employees, blood specimens were obtained from 26 employees on or about April 5 and July 5, 1951. Sixteen of these were paired specimens. These were divided into three groups according to the presence or absence of conjunctivitis and to the date of onset of symptoms. Group I is an acute group, consisting of 7 employees whose onset of conjunctivitis was within the preceding week. Group II consists of 10 employees whose conjunctivitis developed between 2 weeks and 2 months prior to the date of collection of the first blood specimen. This is considered a chronic group. Group III consists of 9 employees from the eviseration line who had no history of conjunctivitis. Group IV is a control group of 6 individuals who have had no known contact with NDV. The sera in Group IV were random samples taken from blood specimens submitted to the Section of Medical Laboratories of the Minnesota Department of Health for routine serological studies from Minneapolis residents.

PROCEDURES AND MATERIALS

Hemagglutination (HA) titration—The chicken embryo allantoic fluids tested for hemagglutination (HA) capacity were diluted twofold in buffered saline, starting with a dilution in the first tube of 1:8 to 1:8,192 dilution in the last tube. To 0.5 ml. of each dilution, 0.5 ml. of the 0.25 per cent suspension of chicken red blood (CRB) cells was added. The tubes were shaken and allowed to stand at room temperature 45–60 min., or until the control tubes containing only saline and CRB cells had settled to form a button at the bottom of the tube. The HA titer was read as that of the last tube showing complete and even agglutination on the bottom surface of the tube.

Hemagglutination-inhibition (HI) tests—Serial twofold dilutions of serum, starting with a 1:8 dilution in the first tube, to 1:256 in the last tube, were made in saline containing 8 HA units of test virus per tube, leaving a final volume of 0.5 ml. After 10 min., 0.5 ml. of the 0.25 per cent chicken red blood cell suspension was added to each tube. Tests were read between 45 and 60 minutes, time of reading being determined by the saline and red blood cell control. After the red blood cells had

settled in the saline control and would flow freely in a teardrop formation when the rack was tilted, the tests were read using the same method.* The results were interpreted as follows:

All tubes negative	=	negative
Tube 1 positive	=	suspicious (+8)
Tube 2 positive	=	suspicious (+16)
Tubes 3–6 positive	=	positive (+32 to +256)

Heat stability test—Heat stability tests were run on pooled allantoic fluids from eggs dying within 2–3 days after inoculation and exhibiting an HA titer. A precision water bath was used, and the temperature was held constant at 56° C. Samples from the same pools were removed at intervals of 0, 15, 30, 45, 60, 90, and 120 min. All were chilled at 40° C. and a hemagglutination titration was ruh after all tubes had been removed and chilled.

Serum neutralization (SN) test—Tests were run as recommended by the Neurotropic Virus Disease Commission in 1942.[11] The Newcastle disease virus (NDV) strain KD-NJ–1945 was used throughout the series of serum neutralization (SN) tests. The virus was stored at —45° C. and lots from the same pool were used for all the tests. Human negative sera were obtained from individuals having no known contact with the fowls or the virus, and these served as the negative controls (Group IV, Table 5). All sera were stored at —45° C. until ready to be used. They were then heat-inactivated at 56° C. for 60 min. before any tests were run. For NDV in poultry, a serum neutralization index (SN index) of 0–50 may be considered as negative, 50–100 suspicious, and over 100 significant.

VIRUS ISOLATION

Specimens of material obtained from the conjunctiva of the 10 acute cases were held at —45° C. until they were inoculated into eggs. Penicillin and streptomycin were used as bacterial inhibitors and the inoculum was incubated at 37° C. for 1 hr. Five eggs were inoculated from each washing with 0.1 ml. each into the allantoic cavity of 10-day-old embryonated chicken eggs. A total of 4 NDV isolations was made, 3 upon first passage and 1 upon second passage into eggs.

The presence of the virus was verified by the early death pattern of eggs inoculated with the suspected fluids, by the HA titers of allantoic fluids recovered from these eggs, and by passage of these positive allantoic fluids into chickens and their subsequent rise of HI titer or death.

TABLE 2

Results of NDV Isolation in Specimens from the Conjunctiva of 10 Persons Collected on Day of Onset to 7 Days Later

Identification	*Days After Onset*	*NDV Isolation*
1. LF	Same day	Negative
2. MT	2	NDV
3. SL	2	NDV
4. MS	7	NDV
5. BM	8	Nevative
6. ML	8	Nevative
7. JO	Same day	Negative
8. MP	5	NDV
9. RN	7	Negative
10. LN	4	Negative

Pathogenicity of Newcastle disease virus for chickens—Allantoic fluids (0.5 ml.) from eggs dying on the second and third day after inoculation of material from No. 2 (MT) and No. 3 (SL) listed in Table 2 were injected intramuscularly into two adult Newcastle-negative white Leghorn chickens. These birds displayed no typical Newcastle infection symptoms but their HI titers

* Detailed information for HI testing procedures will be found on the directions enclosed with Lederle's Newcastle disease antigen (diagnostic).

TABLE 3

Mortality Rate in 6-Week-Old Chickens When Inoculated with 4 NDV Solutions

Identification	No. of Chickens	Route of Inoculation	Percentage Mortality Rate
MT:	10	Intranasal	70
	10	Intramuscular	90
SL:	10	Intranasal	90
	10	Intramuscular	100
MS:	10	Intranasal	90
	10	Intramuscular	100
MP:	10	Intranasal	30
	10	Intramuscular	80

TABLE 4

Results of Heat Stability Studies of the 4 NDV Isolations

	Hemagglutination Titer						
	Time in Min. at 56° C.						
Identification	0	15	30	45	60	90	120
MT	1,024	1,024	1,024	1,024	1,024	1,024	1,024
SL	1,024	512	512	512	256	256	256
MS	1,024	1,024	512	512	256	128	64
MP	512	512	256	256	256	256	32

rose from negative to positive-256 within 8 days. The LD_{50} titer on 12-day-old chicken embryos of No. 3 (SL) was 10^{-8}. Two control birds were injected at the same time with allantoic fluids from eggs dying on the second and third days after inoculation from No. 1 (LF). These fluids exhibited no hemagglutination titer and the chickens were negative to HI tests made respectively 8 days and 16 days after inoculation.

Allantoic fluids (0.1 ml.) from the fourth egg passage of the 4 NDV isolations were injected into HI-negative 6-week-old white Leghorn chickens. Results are given in Table 3.

The mortality rate was highest 4 days after the virus had been injected, with only a few deaths occurring after 12 days. Of the 15 survivors, 8 showed nervous symptoms and paralysis and are not included in mortality rates. Of the 10 contact controls used, 3 died within the 3 week period that the chickens were held, 4 were paralyzed or showed severe nervous symptoms, and 3 were normal. All survivors had uniformly high HI titers of 256 or greater.

Heat stability of virus—Heat stability studies of the HA activity of the virus isolations were run on samples taken from the same pools as the preceding experiment. All 4 isolations resisted 56° C. for 2 hr. to exhibit some titer at the end of that period. Hanson, *et al.*,[12] found great variations in the stability of the HA ability of individual strains of Newcastle disease virus. (See Table 4.)

Results of serological tests of four groups studied—A week after the NDV was isolated, four groups of people were selected as indicated above. Sera from these individuals were tested by SN and HI tests. Three months later blood samples were again drawn from as many of the people as could be located and were tested in the same manner. The results are given in Table 5.

Since Kilham [13] reported the presence of neutralizing and antihemagglutinating

TABLE 5

Results of Serological Tests on Sera From 32 Individuals for NDV, Mumps, Heterophile Antibodies, and Influenza A, A1, B

Group	Case	Onset of Conjunctivitis	Newcastle Disease Virus: Serum Neutralization (SN) Index April 5	Newcastle Disease Virus: Serum Neutralization (SN) Index July 6	Newcastle Disease Virus: Hemagglutination Inhibition (HI) April 5	Newcastle Disease Virus: Hemagglutination Inhibition (HI) July 6	Mumps Complement-Fixation July 6	Heterophile Antibodies July 6	Influenza Hemagglutination (HI) A July 6	Influenza Hemagglutination (HI) A1 July 6	Influenza Hemagglutination (HI) B July 6	Comments
I	ML	3-29-51	Neg.	Neg.	Qns †	Neg.	Neg.	Neg.	256	512	256	Mumps as a child
	BM	3-29-51	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	128	128	256	Mumps as a child
	MS*	3-30-51	Neg.	32	Neg.	Neg.	+1:8	Qns	128	64	128	No history of mumps
	MP*	4- 1-51	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	64	128	128	Mumps as a child
	AT	4- 2-51	Neg.	Qns †	Neg.	+8	—	—	—	—	—	—
	BP	4- 2-51	>10,000	>10,000	+8	Neg.	Neg.	Neg.	128	256	256	No history of mumps
	LM	4- 5-51	Neg.	—	Neg.	—	—	—	—	—	—	—
II	RP	2- 8-51	27	—	+8	—	—	—	—	—	—	—
	GH	2-26-51	27	Neg.	Neg.	Neg.	Neg.	Neg.	64	128	256	Mumps as a child
	CM	2-27-51	32	—	+8	—	—	—	—	—	—	—
	BT	3- 2-51	Neg.	Qns	Neg.	Neg.	+1:32	Qns	64	128	1,024	Mumps as a child
	MO	3- 2-51	Neg.	—	Neg.	—	—	—	—	—	—	—
	MJ	3- 9-51	32	—	Neg.	—	—	—	—	—	—	—
	ST	3- 9-51	>10,000	—	+8	—	—	—	—	—	—	—
	MT*	3-10-51	—	>10,000	—	+32	Neg.	Neg.	64	64	128	No history of mumps
	SL*	3-10-51	—	Neg.	—	Neg.	Neg.	Neg.	64	128	256	No history of mumps
	IK	3-23-51	550	550	Neg.	Neg.	±1:16	Neg.	64	128	256	Mumps as a child
III	CN	None	>10,000	>10,000	+8	Neg.	Neg.	Neg.	256	512	512	Mumps as a child
	DS	None	>10,000	>10,000	+16	+16	Neg.	Neg.	256	128	512	Mumps in 1942
	MS	None	6,900	3,200	Neg.	Neg.	+1:32	Neg.	128	256	512	Mumps in 1949
	JS	None	Neg.	Neg.	Neg.	Neg.	+1:16	Neg.	256	128	256	Mumps as a child
	SH	None	Neg.	Neg.	Neg.	Neg.	Neg.	±1:40	512	256	512	No history of mumps
	NS	None	79	246	+8	Neg.	Neg.	Neg.	512	256	256	Mumps as a child
	MB	None	2,200	6,900	+32	+32	±1:8	Neg.	128	256	512	Mumps as a child
	DM	None	>10,000	—	Neg.	—	—	—	—	—	—	—
	MT	None	170	Neg.	Neg.	Neg.	+1:32	+1:40	128	64	128	No history of mumps but family exposure in 1938
IV	70544	Unknown	Neg.		+8							
	70545	Unknown	Neg.		Neg.							
	70546	Unknown	32		Neg.							
	70554	Unknown	Neg.		Neg.							
	70555	Unknown	Neg.		Neg.							
	70556	Unknown	Neg.		Neg.							

* NDV isolated.
† Quantity not sufficient.

factors against NDV in sera of convalescent mumps patients, mumps complement-fixation tests were run on the specimens obtained July 6, 1951. Tests for heterophile antibody titer and influenzal hemagglutination inhibition were also run on these single specimens. These results are also listed in Table 5.

SUMMARY

Although the number of specimens and the number of isolations of Newcastle disease virus in this study were relatively small, the isolation of the virus from 4 out of 10 cases seems to establish that Newcastle disease virus was the etiological agent in the outbreak of 40 cases of conjunctivitis among the 90 workers employed in eviscerating poultry at the Minnesota plant.

There were no significant serological changes in the acute or convalescent sera of the paired specimens. However, it is of interest to note that the SN index was significantly high in 64 per cent of the individuals in Group III who had no conjunctivitis, while it was high in only 25 per cent of the individuals in Groups I and II. This suggests the possibility that a high SN index may be associated with resistance to conjunctivitis. In Group IV (the control group), the SN index was negative in each instance. This study indicates that contact with poultry on the evisceration line may result in circulating antibodies for the NDV. The possibility of a nonspecific antibody response occurring in man not associated with exposure or with any of the antigens studied must also be considered.

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The Health Officer and Health Education

Functions of Health Educators

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THE health officer in South America or North America is constantly checking his objectives, technics and results, seeking ways to improve his services and thereby control public health. In the search for better technics and improved services he must consider health education, because it is assuming ever greater importance in public health practices.

The health officer has been told that health education should be one of the objectives of his program inasmuch as it is necessary to educate people so that they may assume their proper responsibilities in solving personal and public health problems. He has been told that health education is a technic which his staff should use in order to teach people to assume these responsibilities. He has also been told that he should have a health educator or educators on his staff to help him formulate his educational programs, organize the community, and educate the public generally.

What does the average South American health officer think of health education, both as an objective and as a technic, and what does he think of the professional health educator as a member of his staff?

Probably nothing very different from his North American counterpart. The South American health officer, with few exceptions, thinks of health education in terms of pamphlets, posters, motion pictures, newspaper articles, and radio broadcasts. He thinks of materials, not of programs. He does not have a clear-cut picture of the functions of health education in public health or of the specialized activities and personnel necessary to carry out such functions. In this case the fault is not his, but ours. We health educators have not specifically stated just what a health educator does in terms that the health officer can readily understand. He says that he can get all the health education he needs from a good newspaperman or a good public health nurse and that if he needs community support he can get it himself from his own contacts.

It is true that the newsman, the nurse, and the health officer himself have important parts to play in executing certain parts of the health education program. But what we have failed to do is to differentiate between what constitutes a program in health education and the activities which are parts of the program. The first requires for its development a professionally trained person, a health educator, who can help the service personnel examine, define and organize the solution of their educational problems. The second requires personnel to execute the program, that is to say, doctors, nurses, inspectors and others who carry out educational functions planned as part of the total health education program.

It is to clear up such misunderstanding of health education and to explain in simple, concise terms just what its functions are in a public health program that we have devised the following statement entitled "Functions of a Health

Educator."* With this statement we have been successful in putting before our health officers our concept of health education and have been successful in selling them the idea that health education and health educators are not only useful but indispensable components of their public health programs.

This statement groups the functions of health education in the public health program into six fundamental areas, all of which directly affect the success of the work of the health officer. These six specific areas he understands because they are part of his daily work. They are so defined that he can see that it takes a specialized person to administer them who may not be a doctor, nurse, newsman or health officer, but who will inevitably contribute to the success of the staff of the health officer and to his program.

Let us examine this statement of functions:

1. *To Help Plan the Educational Programs of the Various Service Divisions of a Health Department*

The amount of education necessary to enable an individual to assume his share of the responsibility for the solution of a particular health problem such as prenatal or infant care, sanitation, or communicable disease can be determined. Upon the basis of this a progressive series of educational experiences can be developed which can be used by the doctor, nurse, sanitarian, or other professional personnel to help the individual assume his responsibilities.

The primary function of the health educator is to aid the division chief and his personnel to determine such educational experiences. He then helps them to organize these experiences into an educational program on the level of the individual for whom it is designed and according to the contacts and time available to the professionals who will use it.

This is simply saying to the health officer, "Let's look at your educational problems the way the schools look at theirs and organize the solution of them the way they do."

First of all, what do we need to teach? Let us say, for example, "Prenatal Care." To do this we must determine the educational level of our pupils, expectant mothers, because this governs the preparation of all the subsequent materials.

Second, what does the expectant mother need to know? What must she do to carry out her role as a future mother? These things form the content of our course of instruction. These things are known—the real problem is organization of the process of instruction, or better, the series of experiences by means of which the mother will learn how to assume her responsibilities.

Third, how much time is available to teach this mother the content necessary? Somewhere between one and eight months, depending upon when she first comes to the clinic. However, in the time available, what actual opportunities exist for education? That is to say, how many contacts does the professional staff—doctors, nurses, midwives, etc.—have with this mother in clinic, home visits, or clubs, or classes? What is more important, in these same contacts how many actual minutes are there available for education?

Fourth, when we obtain the answers to the questions in the preceding paragraph we can "distribute" the content which must be taught among the various contacts, arranging it in a progressive series of experiences. At this time, however, we must decide "which" of the professional staff will teach "what" content in each contact.

Perhaps it would be worth while to visualize this process of analyzing an educational problem, so that we may all see it as the health officer does and understand the relationship which exists

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between the professional health educator and the rest of the health department staff. To do this let us examine the outline of organization for a vaccination program which is part of the solution of the communicable disease problem. We use this outline instead of the subject, "Prenatal Care," because it lends itself better to visualization. The outline refers to the vaccination program against diphtheria, whooping cough, tuberculosis, and smallpox which is a routine procedure in all infant care services in Chile.

In this outline the problems have been systematized in the following manner:

1. The groups of the community who must be educated.
2. The objectives to be reached with each group.
3. The educational content or what it is necessary to teach each group so that they may play their part in the solution of the problem.
4. The methods and materials necessary to the teaching process.
5. The professional who will teach the various individuals or groups, using the content, methods, and materials indicated.

Note that the *health educator* does not appear in the diagram. Why not? Because he is the one who with the technical staff developed the *program* and who will work with them on methods and materials. The actual education of individuals and groups, that is to say, the "public," is the work of the technical staff—they are the ones in contact with the public, not the health educator.

The outline refers not to a vaccination campaign, but to a program, a normal daily function of a local health department. In such a case, the local health officer and his staff consider it their responsibility to carry out the functions enumerated even in the school and general public areas. Both school doctors and nurses consider working with teachers and parents in communicable disease control as part of their school health program. This education of school personnel and parents is one of the things which characterize the school doctor and nurse and differentiate them from those in private practice.

However, in the case of an epidemic or campaign, where large masses of people must be stirred into comparatively prompt action, this slower more generalized educational technic must be replaced by propaganda methods. In such a case a health educator may take part in group activities at the school and general public level. The action of this health educator, however, is not on the level that we are discussing, nor need he have the preparation required for the functions we are defining. There are levels in health education which should be defined as well as functions.

To return to our problem, what does the organizing and systematizing of programs do to explain our point of view to the health officer? It clarifies his concepts of health education. He sees the need for organized programs and how they help his staff and his work. He sees how his staff can now attack the educational problems of public health as a team, each doing his share in a planned progressive series of actions. This does much to remove the vagueness from health education, vagueness which must always exist if the technical personnel do not have their educational goals and methods clearly defined.

2. *To Conduct Training of Personnel*

Once the educational program has been planned, the personnel need to know how to teach in order to achieve maximum results from the program. They need to know how to establish rapport with and motivate the action of the individuals whom they are teaching. They need to know educational principles and methods as well as how to organize the contacts they have with the individual.

It is the second function of the health educator to teach the personnel such technics and procedures in order to make their daily work more effective.

This second activity follows logically after the first. The professional health educator must not only assist the technical staff to organize its educational program but he must also develop their ability to use the program and to become good teachers. This he does in seminars and during the actual development of the program. Again the health officer sees the need for the health educator because he can now see how his work helps to make more effective the work of the technical personnel.

3. To Obtain or Prepare Educational Materials

The third function is obtaining or preparing printed visual and audio-visual materials to be used by the professional personnel of the service divisions in carrying out their educational programs, materials for which need was demonstrated during the development of the program.

To complete this cycle of three related functions, the health educator and the technical staff, in developing the educational program, discover the need for specific teaching materials in order to make their activities effective. These materials may be charts, diagrams, photographs, motion pictures, pamphlets, posters or printed matter.

It is the duty of the health educator to prepare or secure such materials for the use of the technical staff. It is important to note that these materials are designed to be used by specific personnel as part of their daily work in a planned educational program. As such, therefore, they differ from purely propaganda materials used in public meetings, expositions, etc.

These three functions we hold to be the primary obligations of a health educator who works in a health department. With these three functions defined, the health officer has a much clearer concept of an important phase of the health education program in public health, namely, that part which deals with the education of individuals by the health department staff. It is this aspect which is so important. We know that this intimate, individual contact of the professional health worker with the person who has specific health problems is the most effective way to change the habits, practices, attitudes and knowledge of that person so that he may solve his problems.

However, this has been the area of individual health education where we have been weakest and where education has been vague and to a certain extent improvised. While we have recognized that the solution of public health problems requires both medical and educational treatment, we have failed to make clear that the educational treatment must be as precise and methodical as the medical.

To this end we say let us organize our work so that a doctor, nurse or inspector, or other professional can prescribe an educational treatment for the individual just as he prescribes rest, milk, surgery, or other treatments according to the needs and progress of the individual.

As has been noted, these first three areas are the basis of the health department health education program, but they are not all. Individual health education by itself cannot solve the problem, nor can the health department alone educate the public. The health officer and the health educator must use other technics and ask the help of other agencies in order to achieve maximum success in the control of public health. It is for this reason that we put next in importance function No. 4.

4. To Coöperate with Other Organizations to Develop an Integrated Health Education Program Which Will Complement and Amplify the Educational Programs of the Health Department

a. *Departments of Education*—This fourth function of the health educator is indispensable for the future of public health in any country. Probably the most important and most effective coöperation possible is that

with departments of education. School health education programs develop the basic habits, practices, attitudes and knowledge necessary for the formation of a well informed, health-conscious public. This the health department cannot do alone, since its programs are primarily for adults and reach only a small proportion of the people.

b. *Professional Schools of Health and Education*—Since professional workers in health and education, that is to say, doctors, nurses, sanitarians, and teachers, carry out one of the most effective activities in the health education of the public, it is essential that they be adequately prepared in health education during their basic and postgraduate training. To this end the professional health educator should work with or participate in the courses of health education given by professional schools of health and education.

c. *Other Agencies*—Any agency whose activities affect the health of the public needs educational programs as one of its functions. The professional health educator can assist the integration of the community health program by coöperating with these agencies in the development of their educational activities.

It is readily seen from the foregoing that the progressive health officer looks at his community as a whole and brings to the solution of its health problems not only the resources of his staff and budget, but in so far as possible those of other institutions as well. To this end the health educator will serve the health officer efficiently and satisfactorily if he devotes a portion of his time to the fomentation and development of health education programs in agencies other than his own. It is understood, of course, that these activities should result in the coördination of efforts to solve the health problems which are confronting the health officer and are within the scope of his program.

Thus far we have been talking of functions which may be called truly educational in nature—programs, personnel training, materials and such—destined to aid specific individuals solve their health problems or improve their knowledge and habits of living. Now we come to a fifth function which does not have such intimate relation with education but which nevertheless is a necessary function of health education in the field of public health.

5. To Arouse Public Interest and Inform the Public About Health Problems and Activities of the Health Department by Means of the Press, Radio, Motion Pictures and Other Methods of Propaganda

A fifth function of the professional health educator is to employ the usual propaganda technics to keep the activities of the health department and the health problems of the community constantly in the mind of the public. This activity, by reason of the comparative ease with which it may be done and the show it makes, is most frequently used and frequently is considered as health education itself; whereas it is only one part of a complete program in health education.

Too often the health officer confuses health education and health information, publicity or propaganda. He thinks in terms of posters, motion pictures, radio announcements, newspaper articles, pamphlets and health campaigns. However, it is doubtful that using posters or motion pictures; radio announcements or public lectures; or newspaper articles and pamphlets is very effective in changing habits, practices, and attitudes of the public. Such procedures, of course, do something. They arouse interest, upset the complacent, and cause some to seek more information or actually to be educated by professional health workers who are operating within the programs outlined in the foregoing. This is useful and necessary, within limits. At the same time, it has another value. The health officer cannot afford to let his activities go unnoticed in the community. He is working with problems in which the solutions are frequently costly to the individual and the public and with results that are not always immediately obvious. Therefore, he must constantly inform the public of these problems and the developments in their solution. To do this the health educator must use all the

VACCINATION PROGRAM, HEALTH EDUCATION PLAN

Areas	*Objectives*	*Content*	*Methods and Materials*	*Personnel Responsible*
PROFESSIONAL EDUCATION: 1. Medical profession 2. Other health agencies 3. Program personnel Doctors Nurses Auxiliaries	1. To secure support of medical profession and other health agencies. 2. To have them understand need to reach and maintain useful levels of immunization in community. 3. To make known part of international agencies in program. 4. To make known: a. Characteristics of the diseases in all their aspects. b. Local programs and their development. 5. To train personnel in the technics of vaccination.	1. Rank of communicable diseases in Chile as cause of death. 2. Origin of international agreements. 3. Clinical and epidemiologic characteristics of control and prevention of diseases. 4. The local program: a. Organization-administration. b. Who should be vaccinated. c. What proportion. d. Duration of program. 5. The vaccines: a. Preparation-conservation. b. Technics of application. c. Indications-control.	1. Interviews with medical directors. 2. With directors of medical societies. 3. Meetings with medical societies. 4. Conferences and seminars with personnel, using: a. Demonstrations of technics. b. Films and other visual materials. c. Manuals of instruction. 5. Periodic bulletins. 6. Letters and bulletins to private physicians. 7. To medical societies.	HEALTH OFFICER: Chief, communicable disease service
FAMILY EDUCATION	1. To have family understand its responsibility for health of its children through vaccinations. 2. To accomplish vaccination of all eligible children in the family. 3. To enlist family in spreading acceptance of vaccination program in community.	1. The Diseases: TB, diphtheria, whooping cough, smallpox, typhoid fever. a. General characteristics. b. Control measures. c. Their existence in community. d. Susceptibility of population. e. Age groups affected. 2. The vaccines: a. Practical means to protect children. b. Methods of vaccinating. c. Care after vaccinating. 3. Information: a. Community benefits of vaccination. b. Importance of high level of vaccinations. c. Responsibility of family in program.	1. Interviews and conversations in child welfare clinics. 2. In homes of clinic patients. 3. Demonstrations of vaccinations in clinics, mothers' clubs. 4. Talks in clinics or clubs, using visual materials. 5. Distribution of illustrated pamphlets. 6. Posters in clinics. 7. Vaccination certificates.	Personnel of the program: Doctors Nurses Vaccinators Auxiliaries

VACCINATION PROGRAM, HEALTH EDUCATION PLAN (Cont.)

Areas	*Objectives*	*Content*	*Methods and Materials*	*Personnel Responsible*
SCHOOL EDUCATION: 1. Teachers 2. Pupils 3. Parents	1. To have teachers and pupils understand control of certain communicable diseases by means of vaccination. 2. To integrate the school into the local community program. 3. To obtain development of pupil and parent participation in program.	1. Role of the school in community health. 2. Objectives of vaccination program. 3. The program as a means of realizing one aim of the Chilean primary school—"Education for Health." 4. The diseases: a. General characteristics. b. Control methods. 5. The vaccines: a. Practical means of disease control. b. Production and use of vaccines. 6. Importance to school in reaching useful level of immunizations in community.	1. Interviews with educational authorities. 2. Meetings with school directors and teachers, using: a. Films and other visual materials. b. Pamphlets and posters. 3. Bulletins. 4. Providing study units, visual and printed materials for pupils. 5. Meetings with parents using: a. Films and visual materials. b. Pamphlets and posters.	HEALTH OFFICER: Chief, school medical service School doctor School nurse Directors of Schools Teachers
POPULAR EDUCATION: 1. Clients of child health services of insurance and public aid groups. 2. Social and civic clubs. 3. General public.	1. To obtain vaccination of children whose mothers attend clinics of insurance and public aid groups. 2. To inform and secure backing of social and civic groups. 3. To inform public about program.	See: "Content" under family education.	1. Interview with teachers of groups. 2. Group meetings, using: a. Films and other visual aids. b. Pamphlets, posters, leaflets. 3. Articles in press—publicity. 4. Radio programs. 5. Slides and shorts in theatres.	HEALTH OFFICER: Chief, communicable disease service Doctors Nurses

attention-getting devices and information media available. This is his obligation, but at the same time he must not let the health officer or the public think that this is all there is to health education.

Finally we come to the sixth and last function of the health educator:

6. To Organize the Community for Health Education

The sixth function of the health educator is to organize community groups for the study and solution of community health problems. This activity is designed to develop community health-consciousness and responsibility through the active participation of groups of citizens in planning and executing programs of community health improvement, sponsored by themselves and aided by the official and voluntary agencies of the community. The end result is a more adequate understanding of and support for health department activities.

This is the culmination and, we might say, the more productive of the group methods in health education. Classes, clubs, lectures, public meetings, newspaper articles, radio programs, etc.—the usual group technic activities—cannot give as satisfactory results as does this one method. Its success depends not upon the knowledge of the health educator, but rather upon his ability to understand and work with people; his appreciation of the democratic method of education, of learning by doing. He must guide the activity without seeming to do so. The health educator, who is the organizer and adviser of the group, must stimulate investigation; supply data and information; facilitate services of the health department, and help the group analyze and interpret its findings to the end that they may formulate and execute a plan for the solution of a specific health problem.

Here we have defined six functions of health educators, Program Planning, In-service Training, Preparation of Materials, Coöperation with Other Agencies, Publicity and Propaganda, and, finally, Community Organization. These areas of activity sum up in fairly inclusive terms all the varied activities of a health educator and define the contributions of health education to the public health program in such a way that the health officer can see the utility of health education and health educators in his program.

WHO'S Leon Bernard Award to Professor Winslow

For "an outstanding contribution to social medicine" Professor Charles-Edward Amory Winslow has received WHO's Leon Bernard Foundation Medal and prize of 1,000 Swiss francs. This was presented at a session of the 5th World Health Assembly in Geneva on May 12. With Professor Leon Bernard for whom the prize is named, Professor Winslow in 1921 helped organize the Health Section of the League of Nations, which was the forerunner of the present WHO. Dr. Winslow prepared the monograph *The Cost of Sickness and the Price of Health*, recently published by the WHO. This report opened the 5th World Health Assembly as a general presentation of the economic value of preventive medicine. Dr. Winslow is editor of the *American Journal of Public Health* and professor emeritus of public health of Yale University.

Health Education and Preventive Medicine—"New" Horizons in Medical Care*

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SINCE the early years of this century, increasing attention to the health of the nation has found expression in a growing demand for a better adaptation of medical service to social needs. In response to this progressive pressure, a wide variety of programs for the financing and provision of medical care have been created. Today, more than half the population of the United States is covered by organized plans of some kind. Quantitatively, at least, this development represents a considerable improvement over previously existing conditions and provides some degree of protection against the heaviest costs of illness. At the same time, while recognizing this achievement, the question must be raised whether the full potentialities of organized medical care programs are being utilized to improve the health of the people they serve.

The importance of preventive care and health education in medical practice has long been recognized.[1] Clearly, voluntary medical prepayment plans covering some 75,000,000 Americans could be exceedingly important agencies for bringing preventive services to a major portion of our population. Nonetheless, it is equally clear that the full potentialities of these programs are not being utilized toward this end.[2] What are the reasons for this situation, and what can be done to make preventive services available to the members of such plans?

Most medical care prepayment plans are based on the individual practice of medicine combined with the fee-for-service of payment. Consequently, they are subject to the limitations of this pattern of medical practice, which tends to emphasize the treatment of existing disease rather than the prevention or early detection of the condition. Furthermore, this organizational pattern is generally associated with a social philosophy and a concept of human nature reflecting the spirit of a passing era. Belief that medical care insurance is primarily a means for financing the costs of serious and expensive illnesses goes hand in hand with a concept of man as a thoroughly rational being, completely motivated by self-interest, and fully endowed with knowledge and foresight.[3] Needless to say, these views are hardly in accord with current concepts of human behavior [4] or with the practices of insurance companies. Various types of insurance companies have long carried on programs to help maintain and protect the health of the people whom they insure, and in so doing have rendered an important public health service. There is therefore no fundamental reason why an organized medical care program ap-

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plying the method of prepayment should not provide some form of preventive and educational service for its members. The problem is one of organization rather than principle.

Basically, the pattern of organization for preventive services will be shaped by the method of rendering medical care. There are, however, three major areas to be considered in developing a program of prevention and education within the framework of a prepaid medical care plan. These are (1) the application in an integrated and efficient manner of medical and public health technics for the prevention or early detection of disease; (2) the development of an educational program on a continuing basis to provide understanding and guidance in matters of health, and in particular to enable the insured to be better informed about the medical care plan and the proper use of its services; and (3) the utilization of nursing service to obtain the maximum benefit in health conservation and promotion.

The application of preventive technics to the day-to-day work of the medical practitioner still requires considerable exploration. Wherever feasible, these technics should be incorporated into a periodic health review carried out in the doctor's office. However, recognizing that this is difficult to achieve under the fee-for-service system because of its expense, it has been proposed that mass screening tests be made available to physicians as a service to which they may refer their patients.[5] The establishment of such detection centers would certainly make it possible for medical care prepayment plans based on individual, fee-for-service practice to give their members some measure of preventive care. Where financially possible such a center might be set up by the plan itself to provide service to all participating physicians. Another possibility is a coöperative arrangement involving the pooling of community resources (public and voluntary) to establish a center of this kind. But no matter what the basis for such action, it would undoubtedly tend to foster the practice of preventive medicine.

Hand in hand with the creation of arrangements and facilities to foster preventive medicine must go the development of an educational program under the direction of a properly trained community health educator. In a medical care program, the health educator would endeavor to supplement in an organized and continuous manner the educational work of the physician. Theoretically, the physician is in a very advantageous position to render the patient receptive to learning about the maintenance of health and the prevention of disease. In practice, this is not always the case, for a variety of reasons. The health educator is in a position to strengthen this aspect of the physician's activity, for example, by instructing the insured population on how best to use medical services. At the same time, the physician may be made aware of locally available resources (educational, recreational, or welfare) that may be used for the total well-being of the patient. Furthermore, the health education program of a medical care plan might reach out directly to its members.

Under these circumstances, health information and guidance may be offered through various media, such as bulletins, discussion groups, and the like. In situations of this kind, established community health agencies such as the local health department or a voluntary health agency may be of assistance in the development and execution of the health education program of the medical care plan. Assistance may take the form of the provision of health education materials (pamphlets, leaflets, films, and the like), or of a trained health educator to act as a consultant, or in some other way. Coöperation of this kind has one major advantage. It would

underscore the fact that a medical care prepayment plan is not just an insurance company, but an organization vested with a public interest. It would emphasize the public service character of the medical care plan and bring out clearly its responsibility as a community agency.

At present, organized preventive and educational programs are the exception rather than the rule in medical care prepayment plans. Nevertheless, it is already possible to see in the comprehensive medical care plans what can be accomplished when preventive and educational services are made freely available to members of such programs. Since it is not possible here to discuss the activities of all of them, the program of one large plan, the Health Insurance Plan of Greater New York, has been chosen to illustrate the scope, organization, and operation of such services.

The Health Insurance Plan is a community-sponsored, voluntary medical care plan incorporated under the New York State Insurance Law as a nonprofit agency. Now in its fifth year, the plan provides comprehensive medical care to approximately 300,000 subscribers in their homes, at physicians' offices, at group medical centers, and in hospitals. Medical service is given by 31 group practice units comprising almost 950 physicians. Each group consists of general physicians and specialists representing the 12 basic specialties of medicine and surgery. The organization of the individual medical groups and details of their operations were reported by Baehr in 1950, and will not be repeated here except as they relate to preventive services.[6] The medical groups are remunerated entirely on an annual capitation basis. Consequently, there are none of the extra charges to the patient which in fee-for-service, individual practice, whether prepaid or not, limit utilization of clinical and laboratory resources. This absence of financial barriers gives participating physicians and their patients an opportunity to make the fullest possible use of preventive practices so as to achieve the maximum in health promotion and disease prevention.

From the very inception of the Health Insurance Plan in 1947, preventive medicine has been emphasized as a major function of the medical groups affiliated with it. All insured persons are therefore entitled to periodic health examinations. From the age of 6 through the age of 45, each person is entitled to one such examination annually. Infants, preschool children, and persons over 45, who require health examinations more frequently, are able to receive them.

Patterns of preventive pediatric care are generally well defined and are being applied by the medical groups affiliated with the Health Insurance Plan.[7] Every child born to parents enrolled in HIP is under the care of a pediatrician during the first year of life. This minimum standard is observed by all 31 medical groups. Furthermore, 48.5 per cent of all the children covered by HIP are under regular pediatric care to school age, and about 32 per cent to puberty. In groups where the general physician takes over the regular supervision of the child after the first or second year, the pediatrician is readily available on a consultant basis up to age 13. Steps are also being taken at present to develop well baby conferences.

For adults a standard preventive health examination has been developed and adopted for use by the medical groups. Every health examination of an adult comprises a complete history and physical examination, including height, weight, temperature, pulse, respiration and blood pressure, urinalysis, hemoglobin determination (blood count when indicated), serologic test for syphilis, x-ray or photofluorogram of the chest, vision and hearing tests, rectal examination, and for women, complete

gynecological examination. This examination was devised as a tool for detection of disease of which the patient is not aware and for which he is not seeking medical attention. Whenever the examination indicates need for further diagnostic study, the necessary clinical and laboratory investigations are made. Any medical group wishing to add procedures to those previously mentioned may do so. At the same time, the existence of a standard health examination provides a yardstick by which a major aspect of the preventive work of the medical groups can be evaluated.

Effective preventive care requires not only the removal of financial barriers between patient and physician and the provision of adequate detection facilities, but equally a well organized program of health guidance. For this reason health education and visiting nursing form an integral part of the preventive program of HIP, and responsibility for the development of a coördinated preventive program rests with a Division of Preventive and Educational Services, set up in 1950, which comprises the three areas of preventive medicine, health education, and visiting nursing. In carrying out this responsibility, the Division works with the two other branches of the Medical Department of HIP, namely, the Division of Professional Practices and the Division of Administrative Practices, as well as with other sections of the central organization of the Plan, such as the Enrollment Division, Subscriber Service, and Contract Service. The staff of the Division is composed of persons with professional training and experience in the field of preventive and educational services, fully capable of providing guidance and assistance to the medical groups affiliated to the Plan.

The preventive and educational program of the Health Insurance Plan and its associated medical groups takes as its point of departure certain basic premises. For one thing, the overwhelming majority of persons joining the Plan are using group medical care for the first time and have much to learn about proper utilization of the comprehensive service to which they are entitled. Second, many of these people are accustomed to a patient-physician relationship with an individual practitioner and must be guided and assisted to establish a similar relationship within the framework of group medical practice, that is, with the physician as a member of a medical team. Furthermore, it is felt that every member of a medical group (professional, administrative, or technical) who renders service to patients and comes into personal contact with them is in a position to facilitate this process. Third, the establishment of a satisfactory relationship between the subscriber and the medical group is essential to the success of any program of health guidance. At the same time, it is also recognized that such programs help to strengthen and reinforce this relationship.

Based upon these considerations, the following activities are now in operation. To the degree that this is possible, every effort is made to acquaint prospective subscribers with the nature and significance of the preventive services provided under the Health Insurance Plan. As part of this effort, the Associate Medical Director who heads the Division of Preventive and Educational Services reviews all enrollment literature for its bearing on the preventive program and interprets these services to the staff of the Enrollment Division so that they can give prospective subscribers an accurate preview of the service to which they will be entitled. This applies also to printed materials sent to new members shortly after they have joined the Plan, and intended to instruct them in the proper use of the medical services. Among these is a welcome letter from the medical group chosen by the subscriber, in which he is urged to choose a personal

physician and to make an appointment for a preventive health examination.

An important and regular channel of communication with subscribers is the health education bulletin. Thirty of the 31 HIP groups now issue such bulletins on a quarterly basis. These bulletins provide an important instrument for developing better understanding and encouraging closer relationships between the medical group and its patients. Each bulletin consists of four pages, of which the two inside pages are devoted to material concerned chiefly with general health guidance and information, while the two outside pages are given over to subjects relevant specifically to the group sponsoring the bulletin. The Division of Preventive and Educational Services is responsible for the preparation and issuance of the bulletins, while the expense of publication and distribution is shared between the HIP central organization and the medical groups. Response to the bulletins has been very good, and there is no doubt about their effectiveness as an instrument for conveying information.

Even more significant for the preventive program of the Health Insurance Plan has been the development of health education programs, stimulated by the Division of Preventive and Educational Services, sponsored by certain of its affiliated medical groups, and organized on a subscriber-physician discussion group basis. A group that begins to explore the organization of such a program is embarking upon a complex and, for most medical men, uncharted operation. For significant learning to occur through individual or group face-to-face interview the situation must be carefully planned. By this means, subscribers can be most effectively helped to understand their health needs and to learn how best to meet them through services provided by the medical group. The Division of Preventive and Educational Services has given special attention to the organization and operation of these programs. In principle, each program is organized so that the professional and administrative personnel of the medical group have the central responsibility for the operation of the program. The HIP staff provides guidance and know-how, assists in the preparation of posters, printed announcements and mailings, and helps the group in securing and evaluating certain aids, such as films, pamphlets, and the like. In this connection, the group is helped to become aware of locally available resources. The costs are shared equally by HIP and the medical group. In general, the programs are intended to provide health guidance in some specific area, such as child care or mental health, and to enable patients to understand what a medical group is and how it works.

Since the fall of 1950, eight groups have launched health education programs, and a number of others are in varying stages of preparation. Accepting the principle that an educational program is more likely to be successful if based on the expressed needs of people, several exploratory investigations have been made to determine these needs. For this purpose, special mail questionnaires or the health education bulletins were employed. Furthermore, in order to establish the closest possible rapport between the medical group and the subscriber, every group entering upon such a program is encouraged to stimulate the formation of a subscriber committee, which will work with the physicians in the development and furtherance of the program. Three committees of this kind have been formed and others will undoubtedly follow. So far as possible, lectures are avoided, subscribers have the greatest possible leeway to ask questions, and discussion is encouraged. Every effort is also made to involve the greatest number of physicians. Thus, in one group, all the pediatricians participated as a panel, with the chief of the pediatric

service acting as moderator. In another, the medical director and the psychiatrist initiated the program. There seems to be little doubt that, as these programs develop, the returns in terms of better understanding and use of medical service, reduced complaints, and more satisfied subscribers will become more and more evident.

These health education activities also help to promote another aspect of the HIP preventive program, namely, they encourage and develop the use of the preventive health examination to the fullest possible extent for the early recognition of disease. Two approaches toward this goal have been taken. In the case of two smaller medical groups, the subscribers were divided according to the month in which they were born. A birthday card was developed by the Division of Preventive and Educational Services, and the card is now mailed each month to those subscribers whose birthdays occur in the following month, inviting them to give themselves a birthday present by arranging to have a preventive examination.

Another arrangement was developed for a large HIP group. Here a modified screening approach is employed. One day a week is set aside at the group medical center for preventive examinations. Subscribers are urged to make one appointment at the center and another with the subscriber's personal physician a week later. At the center, the subscriber's identifying data are recorded, as well as height, weight, temperature, pulse, respiration, and blood pressure. Blood is taken for a serologic test for syphilis and for a hemoglobin determination, an x-ray of the chest is taken, hearing and vision are tested, and a urinalysis is made. A week later the patient keeps his appointment with his physician, who has the result of the examinations. At this time, a complete history is taken and a physical examination performed. The physician is now in a position to discuss his findings with the patient and to offer health guidance on the basis of these findings. This program has been in operation since May 1, 1951, and is most promising. The results of the first six months will be analyzed shortly, but it is already known that cases of unsuspected tuberculosis, diabetes, cancer, and other conditions have been discovered in apparently healthy individuals. There is every likelihood that this type of program will soon be extended to other HIP medical groups.

In addition to the activities previously described, a number of combined health education and preventive examination programs have been undertaken, chiefly with employee groups through their unions. Educational materials are distributed and displayed, and union members are urged to make use of the preventive services available to them. Where union organs exist, these are used to reach the union members.

The Division of Preventive and Educational Services also assists subscribers in dealing with a varied miscellany of health matters. For example, a health column is prepared regularly for the newspaper of a coöperative housing project in which a majority of the cooperators belong to the Health Insurance Plan. In another instance, the nursery school of a housing project which has HIP subscribers has been aided in developing a series of meetings for parents on child guidance.

Most significant in the HIP program, however, is the fact that the involvement of the physician in subscriber-physician discussion groups and related activities point to a way of restructuring the patient-doctor relationship. When physicians sit down with a group of patients to discuss why a medical group is run in a certain way and to hear how their actions look from the patient's side, they cannot help being influenced in their behavior by the patient. The patient-

physician relationship begins to approach more closely a relationship among equals. In effect, it is the beginning of a new, more democratic patient-physician relationship. This does not mean that we are completely out of the woods. Far from it. Much still remains to be done. Education of patients and physicians is a long, never-ending process. But we can see where we are going and that is important.

Many questions still remain to be answered. Nothing has been said, for instance, about public medical programs, and yet there can be no doubt that much of what has been presented applies also to such programs.[8] Similarly, nursing was barely mentioned, but here, perhaps, refuge may be taken in the fact that nursing has received both theoretical and practical attention in relation to the medical care problem.[9] Nonetheless, questions still remain. For example, if teaching is a prime function of the public health nurse, how can she contribute most effectively to the educational program of the medical care plan? Similarly, the role of the medical social worker in relation to the preventive and educational aspects of medical care still remains to be determined.

Nevertheless, this much is clear. No medical care plan can be considered comprehensive unless it includes preventive and educational services. Health education and preventive medicine are essentials for high quality of service in any organized medical care plan. The integration of these services into organized medical care offers an opportunity and a challenge. It offers an opportunity to achieve the long overdue realization of a goal which has been honored chiefly through lip service, namely, the promotion of health and the prevention of disease at the source, among those who are apparently well. It is a challenge, because the achievement of this goal will not be easy. It will require the most thoughtful collaboration of the various health professions and the public, that is, the people served by organized medical care. To be sure, there will be opposition. There are always some among us who move into the future looking backward nostalgically. Nevertheless, the goal is clear. Getting on toward it is our next job.

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Public Health in Alaska—United States Frontier*

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ALASKA—America's last frontier—is a description frequently used in referring to this great northern country, but actually, in many respects Alaska is rapidly changing from a frontier. To what degree Alaska should be referred to as a frontier is not of any great importance. What is important is that American citizens have the proper understanding and appreciation of this great United States' possession. There is undoubtedly more misunderstanding and misinformation about Alaska in the minds of Americans than there is about many foreign countries. It has been considered as just a land of ice and snow where living is difficult and the inhabitants are all Eskimos who live in igloos. This concept is difficult to change, but it is changing because the thousands who served there during World War II and now, working in the developmental and defense activities, see the true picture.

The name Alaska was probably derived from an Aleut word *Aliashka* which means "great land." This is an appropriate descriptive name because Alaska covers an area of over 560,000 square miles, equal to one-fifth the area of the United States. Within this great land mass, there exist extremes of climate, topography and other conditions affecting public health. For example, the temperature at Fairbanks, only a little over 100 miles from the Arctic Circle, may reach 65 degrees below zero, Fahrenheit, in winter and 99 degrees in summer. Or again, along the southeastern coastal regions we may have a rainfall of 180 inches (15 feet) as compared with the arid regions of the northern slope having a rainfall of a few inches. Most of the people are concentrated in a few larger centers, but there are hundreds of small isolated communities most of them along the sea coast or the navigable rivers. More recently, people have been settling along the railroad and the new highway system.

Alaska is a land of great opportunity because it is a rich land, with more coal than Pennsylvania, with more gold than California, with strategic and other minerals in great quantities. Its natural resources include virgin forests with billions of board feet of timber and proven agricultural possibilities and millions of acres eventually to be farmed. Last but not least, its resources include the annual hundred-million-dollar fishery products that come from Alaskan waters; and the tremendous hydroelectric power potentials. These opportunities are beckoning thousands of Americans, who with a wholesome American pioneer spirit are coming to participate in the development of Alaska.

There is another reason why thousands of Americans are coming to Alaska these days and that is to build its defenses. An immense construction program is now under way and in a recent bill passed by Congress, over $330 million additional defense construction has been authorized, to begin next year. As might be expected, real boom towns are growing up which bring with them all the attendant problems of rapidly growing communi-

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ties. The impact of this rapid growth is more serious than any to be found in the United States because the environmental conditions are not as readily adaptable to adjust to such sudden demands. Surely, it can be appreciated what the problems must be like in meeting the needs for safe water, sewage and refuse disposal, adequate housing, schools, hospitals, and health center facilities.

These are some of the factors that affect public health in Alaska. However, there is one other serious factor that influences our work, the backlog of public health problems which have accumulated over the years and about which practically nothing had been done. Chief of these is the high incidence of tuberculosis. After reliable statistical data were gathered it was discovered that the death rate from tuberculosis ten years ago was nine times that of Continental United States and it has not been reduced very materially even yet. Hundreds of children crippled by tuberculosis were found who were not being cared for. Maternal and infant death rates were exceedingly high. Most villages showed no evidences of safe sanitary practices. These were the problems faced in Alaska when public health got under way.

The history of public health from its beginning to the present is compressed into a relatively short period of time, for Alaska is a very young country. Perhaps the first attempt at preventive medicine in Alaska occurred when Russian doctors began enforcing smallpox vaccination. Their efforts met with such obvious success that even the natives themselves began to request vaccination, preferring it to the ineffective methods of their shaman or medicine man. The population of Alaska at first was not permanent, and not until gold was discovered were communities actually established. Each settlement established its own public health rules and regulations chiefly concerned with the quarantine and isolation of the sick and the burial of the dead.

The first organized step in the development of public health in Alaska came in 1913, when the newly formed legislature named the Governor of Alaska as the Commissioner of Health. In 1919 the Territorial Legislature created the office of Commissioner of Health and the first physician to be appointed took office on a part-time basis. A series of laws were also passed by the legislative session of 1919 that became the authority on which public health in Alaska is founded. These laws spelled out the duties of the Commissioner and his deputies and provided for the organization of boards of health in the various school districts of the Territory. Certain Territory-wide regulations concerning isolation and quarantine and other procedures were also set up.

But the real impetus to public health came nearly 20 years later, when in 1936 funds for the development of health services were made available through the passage of the Social Security Act. As was frequently the case, a public health laboratory was started at once. Several divisions, including those of communicable disease control, maternal and child health, and sanitary engineering were set up with a small staff of professional and clerical personnel. The following year provisions were made for the care of crippled children and the establishment of a sound sanitation program. During this period and up until World War II, when the defense program began in the Territory, a fairly well rounded public health program with 23 full-time personnel got under way. With the rapid development of defense activities, an ever-increasing demand for public health services was created. The need could not be filled because personnel were not available, so that during the war years public health

activity was reduced to emergency measures only. The restoration of routine public health services since the cessation of hostilities was a slow uphill process.

In 1945 the Territorial Legislature passed an act giving the Health Department legal status, creating a Territory-wide Board of Health, and establishing the position of a full-time Commissioner of Health. Within a few months of its creation, the Board of Health had its first meeting, in which a comprehensive public health program was outlined. The Board urged that, if the people of Alaska approved, the Governor call a special session of the legislature to take specific action concerning Alaska's tuberculosis problem. In response to public demand the Governor called an extraordinary session of the legislature in 1946. This session proved to be a significant event in the annals of public health, for during this session both houses of the legislature passed unanimously an all-inclusive tuberculosis bill, backed by an appropriation of a quarter of a million dollars. The impetus provided by the special session continued to influence legislative action. During the next regular session in 1947 the legislature almost tripled the appropriations for health and sanitation purposes. Furthermore, the appropriation was made in a lump sum, giving the Health Department much greater latitude in budgetary decisions.

Despite the increases in Territorial appropriations, Alaska was still faced with tremendous problems of health and sanitation created by the mushroom-like growth of certain areas as a result of the postwar boom during 1947 and 1948. Several of the federal agencies concerned in the development of Alaska requested that the National Congress give special consideration to the health problems of the Territory. In June, 1948, after extensive committee hearings, Congress passed a special appropriation of $1,115,000 for disease and sanitation investigation and control. Through this appropriation, special funds are made available to implement the program of the Territorial Department of Health and to permit expansion of existing services. Also, started by reason of this appropriation, was a basic program of investigation and research in those special problems of sanitation and disease control which are found in arctic and subarctic areas. Well trained personnel were soon obtained, so that during the past three years real forward steps have been made. This can be attributed to a health-conscious Alaskan population, a sympathetic and cooperative legislature, and the helpful guidance and support of the U. S. Public Health Service and the Children's Bureau. Now a well rounded public health program is under way; but there is just so terribly much that needs to be done.

During these few years considerable progress has been made. Briefly, the progressive steps will be mentioned. In 1945 there were only 75 beds for tuberculosis patients, while today there are 518 patients receiving sanatorium care. The Alaska Native Service has built two modern sanatoria and has carried forward a coöperative program with the Alaska Department of Health in attempting to meet this scourge of the Territory.

Through the coöperation of the U. S. Children's Bureau, the Alaska Native Service, and the Alaska Department of Health, a plan was developed to take public health services to the people who were scattered over great areas along the coast line and the major rivers. Marine health units which are really floating health centers became a reality and proved to fill such a need that now five such units are in operation—three marine units, a railroad unit, and one that serves the highway. Laboratory services have increased through these

mobile units but also through the establishment of new Territorial laboratories. The Health Education Division has reached many people through a well rounded program, using visual aids of all types, periodicals, news releases, radio programs and many original educational materials extensively distributed and geared to meet the special needs of racial groups. The Division of Sanitation and Engineering has developed all the necessary basic regulations as guides for the maintenance of standards and has conducted an intensive educational program through inspections of water supplies, dairies and food-handling establishments, and the enforcement of the sanitary code.

The Division of Nursing gives a well rounded, complete generalized nursing service to all racial groups, including specialized consultant services directly in orthopedics, mental health, midwifery, and tuberculosis. Through a coöperative agreement, the Alaska Native Service and the Alaska Department of Health operate an orthopedic hospital of 80 beds with a full-time professional staff. Here there is more bone tuberculosis receiving treatment under one roof than in any other place in North America. An intensive eye, ear, nose, and throat program is doing a great deal to alleviate many special problems found among certain racial groups. Children with chronic diseases receive special attention under a program for their diagnosis and treatment. Maternal and child health programs are well established. The medical social aspects of public health are well provided for. New hospitals and health centers are being built through the benefits of the Hill-Burton Act, and old hospitals are improving standards under a new licensing act. The Bureau of Vital Statistics in the two years it has been under the Health Department can already offer statistics of real value to point the direction of future planning.

This is a brief summary of the history and program of public health in Alaska. In many respects, it is very much the same as in almost every state in the Union, but there are striking differences which make public health in Alaska still *frontier public health.*

First and foremost is the status of tuberculosis control. Very few can appreciate how terrible the situation really is. The death rate among the native population, even today, remains at 600 per 100,000 population. This is based on known deaths from tuberculosis. We now have accurate evidence to show that some villages have active tuberculosis among 25 per cent of the people. The tragedy is that even now not enough is being done and the Indians and Eskimos cannot understand why more is not being done. This is graphically depicted and expressed in the words of a field physician who wrote in a report, "It's pretty hard to go back to these villages and re-x-ray the people and learn that little George or Mary has died of tuberculosis since we last visited. The father says to us bitterly, 'Why you not help us, all white man does is talk, talk, talk, no medicine, no doctor, no hospital, my kids die from TB.'" We still see dozens of children and young people hobbling around with deformed hips and hunchbacks, many in obvious pain who ought to be hospitalized. What are we to tell them when we know they should be given surgical treatment? What is even more regrettable is to see the case that has progressed to such a point that a permanent crippling condition may leave an insurmountable handicap for life. Often public health nurses know that parents with bilateral far advanced tuberculosis and positive sputum live in homes where isolation technic is practically impossible, exposing young people and children. About all the nurse can do for the patient is to promise that some time he might get to the hospital

for care. This places a great hardship on public health workers. Tuberculosis control in Alaska is still *frontier* control.

Another very trying public health situation in all arctic and subarctic areas is a condition known as "permafrost." It is found in 60 per cent of the land area of Alaska and almost one-fifth the total land area of the world. Permafrost usually occurs where the annual mean temperature is 30° F. or less, and in the far North, where annual mean temperatures may drop as low as 10° F., the permafrost may be almost 1,200 feet thick. In the southern reaches of the permafrost zone, the permafrost may be only a few feet thick and may only appear as occasional islands of frozen earth. Summer temperatures are sufficiently high to thaw out the topsoil layer in all parts of Alaska, and in some regions a thawed layer of earth may exist continuously between the seasonally frozen ground and permafrost. Frequently, near rivers and large bodies of water, completely thawed areas may be found.

During the warmest months of summer when flowers bloom and where temperatures may be in the 80's, it is hard to believe that a few feet down in the earth the ground is continuously frozen. This does not mean that these areas are uninhabitable. We know that the Russians have over 15,000,000 people living on permafrost, with cities of a quarter of a million population. However, in providing community water and sewer services and disposing of excreta and refuse in these regions, it becomes readily apparent that temperate climate practices for such services must be modified. We feel confident that the research ability of American engineers can answer these problems, but the tragedy is that until recently we have neglected these basic studies entirely and now we are groping desperately to find the answers in a hurry in the interest of developing our defense program. The realization that Russia and Siberia have some of this know-how and we do not is annoying. The need for American engineers to solve these problems is obvious and fortunately several groups are at work.

Diseases are being found that we did not think existed in an arctic or subarctic area. Diseases of animals transmissible to man are being studied and have been found to be quite prevalent. We find that bacteria exist and survive under prolonged cold. Echinococcosis, leptospirosis, trichinosis and many parasitic diseases are being discovered. All these are now being investigated intensively.

Add to these unusual conditions the attendant problems that result from communities having a population growth of 800 per cent in the past decade and a migration of people from all parts of the world, and the complexities of public health in Alaska become apparent.

It has not been the purpose of this paper to present a pessimistic or discouraging picture but rather to say that public health in Alaska is a problem, an opportunity, and a challenge. The problem should be of very personal interest to all Americans because in these uncertain times, when our nation is being forced into a tremendous preparedness and defense program, Alaska becomes important in the defense plan. We must not permit Alaska to be weak. If it is not adequately defended it will be as though we had left our back door open for the enemy to enter. This great land has become a precious possession to every American and is rapidly becoming very important to the rest of the free world. Alaska must become a bulwark of defense, and we who are in public health know very well that to bring this about, the Alaskan's health must be good and his environment safe. To achieve this goal is the challenge and opportunity of public health in Alaska, America's last frontier.

Employment of the Older Worker—A Challenge to Industry and Public Health*

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IT is well known that the length of man's life is increasing and, as might be expected, his working life is increasing, too; but his life expectancy is increasing faster than his working life expectancy.[1] He now lives relatively longer than he works. In other words, in life's later years the period of nonemployment or retirement is increasing.

WORK SPAN VERSUS LIFE SPAN

The reasons why the work span falls increasingly short of the life span must be due to the voluntary or involuntary withdrawal of the older worker from the labor market, or the failure to employ him when he is fit and willing to work. To what extent each element contributes to the total situation we cannot exactly evaluate, but today there are very good reasons for trying to close the gap between the work span and the life span; to make more effective use industrially of our aging population.

Once again we are in a defense program. In face of a critical labor shortage there is unusual need for full-scale production on the part of old and young alike. While the old are becoming a greater percentage of the population, the young are relatively decreasing and cannot be expected to assume as great a share of production as they formerly did. Young people are entering the working force later in life because of the prolonged period needed for education and military service. Consider the inroads into our productive man power made by our armed forces, comprised chiefly of young men; consider, too, that these forces may suddenly have to be expanded further because of some international development; then the need for industry to use every available person and notably our older workers may become a matter of great magnitude and urgency.[2] As to the present, then, we must work toward bringing the work span into closer approximation with the increasing life span.

As to the more distant future, it is important that the growing segment of older persons in our population become self-supporting or else a greater burden will fall upon others. But to be self-supporting the majority of older persons will need opportunities for work because it is becoming increasingly difficult to accumulate sufficient personal savings on which to retire. Inflationary trends have decreased the value of the dollar and, consequently, the value of income upon which the retired person would rely. Higher taxes make it more difficult to save. Money seems to have lost its meaning and, because the outlook is insecure, there is less incentive to save for future benefits and more reason for reaping what pleasures we can by spending as we go along.

In this connection, Social Security payments are proving inadequate for retirement, and it appears they never will

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be adequate. Pension plans are very popular and are increasing in number, but perhaps the most that can be hoped from either Social Security benefits or pensions in the future is that they will serve to supplement whatever older workers can earn from reduced, but nevertheless active, production. We face today few social problems of such tremendous importance as that of considering the needs of the elderly, and especially of keeping them at work. Even from this brief introduction it must be clear that the solution rests with many elements of our society: with the industrial physician or hygienist, with labor, management, the community, and government.

JOB PLACEMENT AS A LIFETIME PROCESS

To me the most valuable point of view in approaching this problem is that of Hanman,[3] who contends that man's working life is a continual adjustment of the man to the job and of the job to the man. Viewed in this light, it can be shown that age need not be a barrier to employment. Age loses its meaning as a handicap when a man's abilities rather than his disabilities are considered, and this is equally true of any handicapped worker, whether his disability is due to advancing years, to illness, or to any other cause. We seldom stop to think what an old person might be able to do and our prejudices against employing him are long-standing. Cosin has said that the old are sociologically handicapped for employment rather than physically handicapped.[4] A survey of what unemployed old men, now largely dependent on public funds or private charity, could produce would undoubtedly prove an astounding revelation.

It can be shown that industrially there are no truly handicapped persons any more than there are truly nonhandicapped persons; and likewise that old age, like any handicap, is purely relative.

To illustrate the point, I might note that many a white collar worker could not perform a steel worker's job; it would thus appear that the white collar man is handicapped in this respect, even though you might not look upon him as a handicapped person. In one plant of about 1,800 workers the examining physician found only 16 who were capable of performing all the manual jobs in the plant.[3] In other words, almost all workers in the plant were handicapped to a degree. The point is that everyone is relatively handicapped in relation to some occupations. In contrast, a man whose legs were paralyzed in a mining accident and who goes about in a wheel chair does an excellent job working a statistical machine at Permanente Hospital. You look upon him as handicapped. He is physicially handicapped, to be sure, but certainly not occupationally. Likewise, a man of 65 may have skills that outstrip those of a man of 20, even though the man of 20 may excel him in certain other respects. The lesson is surely that a man properly placed at work can do a job irrespective of age.

OLDER WORKERS' CAPACITIES

The question, of course, is how to place the older person at work, and this involves a recognition that man's capacities change with age.[5] Time slows up the older worker. He becomes less adaptable to new work where speed and efficiency are required. He is less flexible. There is a diminution of his muscular strength and a retardation in his reaction time.

What should the industrial physician do about this? Chiefly, he should bear in mind that the older man's loss of speed in industrial operations may be compensated by increased skills and better judgment due to longer training and experience. The older worker may do very well in a supervisory capacity where, in addition to training and ex-

perience, loyalty and dependability may be key requisites.

Keeping this in mind, it should be emphasized how important it is to transfer an older worker to another job within the organization, if possible, rather than to discharge him as unemployable, for once discharged it will be comparatively difficult for him to find reëmployment. The Bureau of Labor Statistics reported that, at a certain time, twice as many persons 55 years and over had been seeking work for a year or more than persons aged 25–44.[1] But there will be less chance of the older worker's being discharged if the plant has a program of reëvaluating the worker's fitness from time to time and readjusting the worker to the job.

If, because of loss of strength, an older worker's weight-lifting activities must be reduced, possibly the job he is doing can be reëngineered and made less burdensome. Some things that he has done manually might be done mechanically, work levels might be lowered, or levers might be lengthened or placed more conveniently.

MATCHING JOB AND WORKER

The central objective is matching the worker to his job and this applies with the same emphasis to the new employee as to the man who is being transferred within the organization.[3, 6] How is this done?

Let us assume that a man's skills and experience fit him for a dozen or more assembly jobs within a plant and that he has worked at a number of them in his years of service with the company, but now at 70 his physical condition must be reappraised. He has bilateral glaucoma, which has reduced his vision in each eye so that he is industrially "blind." Because of arteriosclerosis and hypertension he should do sedentary work. Lastly, because he also has recurrent bronchitis he should work indoors on the day shift in a dry, warm room without exposure to dust of toxic substances. In all other respects, such as hearing, exposure to noise and what not, he has full capacity.

Today, in its most highly developed form, job placement approaches the matter in a way that emphasizes the worker's abilities. First, a job analyst analyzes all the jobs within a plant. One of these jobs, let us say, is placing nuts on bolts. The work is sedentary; vision is not required because a sense of touch will do; the job is on the day shift indoors at a work bench in a dry, warm room without exposure to dust or toxic substances. Now, when it comes to placing our old man, obviously he can do this job and probably can do it as well as anyone else, except perhaps that his total units of production may be less because, being 70, he has slowed up. But even so, he may be able to compete with younger workers since there is considerable variation in production among all workers, and poorer producers are found among young as well as old.

To pursue the technical aspects of the subject further, modern job analysis itemizes the demands of the job in respect to approximately thirty or more physical factors, such as pushing, pulling, walking, kneeling, seeing, hearing; and, similarly, in respect to environmental factors—exposure to heat, cold, temperature changes, noise, moving machinery, and the like. Then the worker's physical capacities in respect to all these factors are tabulated in about the way I have done for the man of 70. The personnel officer (or, in the small plant, someone who assumes his role) takes the analysis of the worker's capacities and seeks to match it among the various jobs for which the worker is being considered on the basis of his skills and past experience.

In job placement technics there are many variations from the procedure just described, but their chief fault is that they are vague—as, for example, approv-

ing an old worker for *light work*, which leaves much room for doubt as to what the man can do. Another method is to classify jobs in a plant according to the various disabilities a worker might have and still be able to do the job. This approach is unsatisfactory because of the great variation in jobs and persons and because disabilities rather than capacities are emphasized. Nothing is quite so effective as specific job and worker analysis.

JOB AND WORKER ANALYSIS

A job analysis is relatively tangible. The analysis of a worker's capacities, on the other hand, is very complex and in general we have no good criteria. Capacities represent a functional or dynamic state, while medicine deals primarily with the static. We diagnose arteriosclerosis with hypertension, but how much work the patient with this condition can do is another matter, and we must rely chiefly on the physician's judgment. This judgment is sometimes expressed in terms of what a patient has done prior to a particular disability. After an accident or illness, a patient might be considered able to lift a certain percentage of the weight he lifted before. Some progress has been made in developing criteria that will assist the industrial physician in more accurately placing workers in industry, but on the whole the subject is one for future research. In general, the exposure of an elderly person to any environmental hazard affecting the cardiovascular system, such as heat or temperature changes, where it exists at all, should be minimal. Much of the study in the field of physical capacities is now being done in socially minded Sweden under the direction of Hanman [8] who, working with Permanente Health Plan doctors during the last war, laid the foundations for specific job and worker analysis.

When elderly workers are placed at jobs, what is their record of performance? Unfortunately, factual data on production are lacking, but we do know there are less labor turnover, fewer absences, and fewer accidents among older workers. However, when injured, older workers suffer more serious injuries and are absent longer per disability.[6, 8] This tends to offset the advantage of the lower accident rate, but it has been pointed out that in companies which have careful placement and good medical programs the over-all experience with regard to both frequency and severity of accidents is far better than in those companies which hire people without the benefit of such procedures.[2]

TRAINING PROGRAMS

As part of the continual lifetime adjustment of man and job, it has been recommended that industry institute retraining programs which keep in mind the change in man's abilities with age.[9] It is believed that most people retain their capacity to learn a new subject practically unimpaired up to the age of 45 and in some instances considerably beyond that age. Complex mental functions show little decline with age. It is reported that in certain cases intelligence tests intended to measure innate mental capacity show no deterioration with age. All this emphasizes that older persons can be valuable to industry in positions which utilize all their capacities.

It has also been suggested that an important role can be played by adult schools and community recreational centers which provide workshops where adults can develop new skills. Although intended primarily to help the worker keep fit for work, the additional skills serve the secondary purpose of giving the worker greater versatility in changing jobs.[10]

RETIREMENT

Such training programs can prepare the worker for retirement. In this connection Fremont-Smith [11] has advocated

what he terms phased retirement: working four days a week at age 55; three days a week at 60; two days at 65, and the like. Thus an increasing amount of time is gradually released for avocational interests. Another variation is cutting down the hours of work per day, say, to four. This allows two men to do the day's work of one. By cutting down the number of days or hours of work, a greater number of older men may be given the opportunity to work on an advantageous part-time basis. Drucker[7] makes the unusual recommendation that a worker should have the privilege of taking a much needed rest for a year or two at 65 and then returning to work—a sort of modified sabbatical leave.

Ultimately, a man might retire completely, depending on his health and desires and other factors. But complete retirement does not necessarily mean that everything stops. Some individuals in full retirement work harder than before they retired, and I know one in particular who is so busily engaged in various activities that he has said the only way he could let up a bit would be to go back to "work." Retirement can be a job. Thus people change, and jobs change throughout one's working life and in actual retirement, so that the concept of lifetime adjustment of man and job can be carried into and through the retirement period.

It must be clear from what has been said thus far that there is no logical basis for an arbitrary retirement age, and some union contracts prohibit such an artificial enforcement, which certainly appears to be justified.

WELFARE MEASURES

Pension contracts drawn, as most of them have been, on the assumption that workers will retire at 65 are now considered obsolete and in many instances should be revised.[7] Apparently pension benefits should be designed in the future to supplement income from work, thus permitting and encouraging continued employment either on a full- or part-time schedule.

The same supplementation undoubtedly applies to Social Security benefits. At present these benefits are withheld from a person under 75 years of age who earns more than the small sum of $50 a month in employment covered by the Social Security Act. The law will probably need liberalization to permit part-time or full-time employment at wages considerably in excess of this amount and possibly without any arbitrary limit whatsoever. One recommendation has been to encourage the postponement of Social Security benefits for the person who continues to work, by offering a certain percentage increment in payments for each month of postponement,[12] but I am told that a similar plan has been unsuccessful in England because under this arrangement the worker would rather quit work and get the basic benefits due him.[4]

The many facets of this subject make it clear that it is one of great social significance which demands the attention of government and other planners. The labor unions have studied the subject and have in some instances included provisions concerning older workers in their contracts with management.[1] These provisions relate to the employment of older workers in less productive work, to revised pay schedules, to short workweeks, to preservation or forfeiture of seniority rights, and in some instances to the insistence that for a certain number of men hired one must be a man over a specified age as, for example, 45.

EDUCATIONAL ASPECTS

Finally, the problem is educational. Never before in history have we faced a future in which a large part of the population, previously considered beyond normal working age, will be available for work. Enlightened management, accord-

ing to Drucker,[7] will begin now to plan production schedules, job modifications, and employment policies to utilize the peculiar characteristics of older workers. In some communities there have been organized efforts through car and bus advertising and counseling services to promote the employment of older workers.[13]

Through constant repetition it should become known far and wide that effective employment is a continual lifetime adjustment of the worker to the job and of the job to the worker. In accomplishing this, many people play a part: the job analyst; the physician who evaluates the worker; the personnel officer who matches the job and worker; the industrialist who accepts the program; and, notably, all members of the community, who must recognize that age, like any disability, is no handicap to employment as long as we evaluate the worker's residual abilities and match them to available jobs. A man's age is just a point on the scale of life and at all ages there is need for effective adjustment of worker and job. Such a constructive program, particularly in these times, should yield rich rewards to the worker, to the employer, and to society.

SUMMARY

In a critical defense program where there is a labor shortage, older workers can be employed effectively. The need for utilizing their services is further accentuated when it is recognized that the older segment of our population is increasing and, because of economic pressures, older persons should become relatively self-supporting.

Social Security provisions and pension plans will probably never be sufficient in the future to allow complete cessation of work for the great majority of eligible beneficiaries. It appears that for almost every worker only partial retirement will be possible.

Thus job placement becomes of major importance. It can be a process of continual lifetime adjustment of job to worker and worker to job, taking into account the worker's changing capacities throughout life and notably in old age, into and through the period of partial and, in some cases, full retirement.

In favor of employing the older person are his skills, experience, loyalty and dependability, and his record for less labor turnover, fewer absences and fewer accidents. The problem of efficiently employing the older person is a challenging one for many elements in our society: for government, the physician, job analyst, personnel officer, employer, labor union, and community.

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Industrial Noise: Its Effect and Control*

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ONE of the most disturbing problems in industry today is that associated with the effects of noise upon the worker and his performance. The problem is becoming more acute with the increased use of noise-generating machinery, engines, and power tools.

Noise may be defined as a complex mixture of simple sound waves and, for purposes of this paper, represents factory noises above 85 decibels in intensity. There are two important physical characteristics of sound which determine its ultimate effects—intensity and frequency. Intensity refers to the energy, or power, of sound waves and is proportional to the square of the pressure variations, or amplitude, of the waves. It is commonly expressed as a unit, the decibel, which represents a logarithmic evaluation of the ratio between two sound pressure levels. The common reference point for comparison of sound intensities is the faintest sound perceived by a normal ear in a quiet room at a frequency of 1,000 cycles per sound. A conversational voice heard at 12 feet at a level of 50 decibels represents an intensity magnification of 100,000 times. Some common and industrial sound levels are listed in Table 1.

In addition to intensity, all sound waves have characteristic frequencies. Frequency indicates the number of sound pressure variations per unit of time and is expressed as double vibrations or complete cycles per second. The important frequency ranges are listed in Chart 1.

TABLE 1

Comparative Noise Levels

Source of Noise	*Decibels*
Jet engine and afterburner	140
Drop hammer	130
Airplane engine—propeller	120
Riveting and bucking	115
Trip hammer	110
Speed hammer	100
Steel saw	100
Router and punch presses	90
Loud speech	85
Heavy traffic	80
Average factory level	75
Street traffic	70
Ordinary speech	60
Audio room	50
Quiet office	40
Hospital	35
Recording studio	30
Electric clock	20
Quiet whisper	10
Threshold of hearing	0

The undesirable effects of noise may be enumerated under three classifications: the effects upon the ear and hearing, changes in organs other than the ear, and interference with speech communication. When the unprotected ear is exposed to a sudden and very intense noise such as that accompanying a loud explosion, ear damage with permanent hearing loss may ensue. Such acoustic trauma involves the application of tremendous sound intensities, probably exceeding 160 decibels, for short periods of time, with resultant rupture of the tympanic membrane, ossicular damage, and changes in the inner ear. Trauma of this type, while not uncommon in the

* Presented before the Industrial Hygiene Section of the American Public Health Association at the Seventy-ninth Annual Meeting in San Francisco, Calif., October 31, 1951.

CHART 1. Important Frequency Ranges

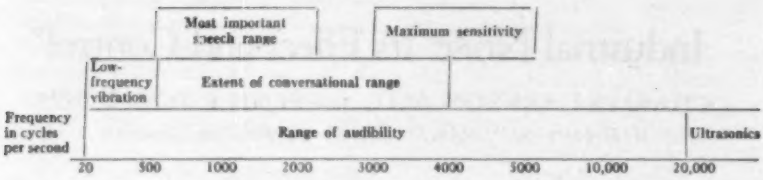


TABLE 2

Hearing Loss and Recovery in an Unprotected Left Ear Following Exposure to Speed Hammers for 30 Minutes (Average Noise Levels 104–106 Decibels, with 99–112 Decibels Range)

Frequency in Cycles per Sound	*Threshold Elevation in Decibels*					
	Preëxposure Audiogram	*Post Exposure*	*30 Minutes*	*60 Minutes*	*4 Hours*	*21 Hours (Following Morning)*
500	5	5	0	0	0	0
1000	0	5	0	0	0	0
2000	0	10	0	0	0	0
3000	0	15	10	5	5	5
4000	5	25	25	25	20	5
6000	20	35	30	30	20	15
8000	15	35	25	20	15	15

military services, rarely occurs in industry. Industrial noises seldom approach these tremendous intensities, but exposure time in industry is measured in months and years rather than seconds.

Unprotected ears when first exposed to noise reveal a temporary and partial deafness as manifested by an elevation in the hearing threshold. Involvement is usually bilateral but frequently of unequal degree. Regardless of the dominant frequency ranges within the noise, the hearing loss is usually manifested by audiometric changes in the 3,000–6,000 cps (cycles per second) frequency range with the maximum changes near the 4,000 cps band. If exposure is continued, extension of the hearing loss into the lower frequencies occurs and partial deafness for conversational speech ensues. Upon removal to a quiet area, recovery occurs in a reverse manner, with early restoration of the lower frequencies followed by recovery in the higher ranges. Recovery is rapid within the first 30 minutes, followed by slower changes over a period of hours, and is usually complete within 48 hours. Fairly typical changes are shown in Table 2. Temporary changes of this type are due to overstimulation and fatigue of the auditory receptor organ and nerve.

In some individuals complete recovery of the hearing loss does not occur over a period of months and a permanent defect remains. For every individual a critical level exists beyond which complete recovery will not ensue. This is a property of personal susceptibility and accounts for the marked variation in individual reactions when exposed to noise of equal intensities and duration. In any survey of the general population a small number of individuals will always demonstrate progressive hearing loss of the traumatic type without history or evidence of excessive noise exposure.

Numerous factors must be considered in the production of permanent hearing changes in the average individual. These

include the over-all noise intensity, type of noise, predominant frequency ranges, and the constancy and duration of exposure. A dogmatic statement concerning the so-called "safe" level for continuous daily exposure cannot be made. It is generally accepted, however, that such a level probably does exist between 70 and 90 decibels for the average person. The U. S. Air Force has accepted a maximum level of 85 decibels for daily exposure of 2–8 hours and assumes this to be safe for ear exposure as well as for the prevention of accidents. Sound levels to 100 decibels are acceptable for momentary exposure. Sound intensities of 120 decibels will produce a sensation of discomfort in the ear. Pain will follow exposure to 140 decibels and mechanical damage to the ear will ensue at levels of 160 decibels.

Noise of an interrupted type, such as that generated by drop hammers, is potentially more traumatic to the ear. Strong vibrations associated with noise will enhance the hearing loss. Assuming two noises of equal intensity, that with predominantly higher frequency ranges is more damaging and annoying to the ear.

The duration of exposure is very important, as revealed in all statistical studies. In any given sound field, hearing loss varies directly with the duration of exposure. Since the effects of acoustic trauma are cumulative, reëxposure prior to complete recovery may also lead to permanent loss.

Tinnitus of an annoying and persistent nature is a common early complaint and may be associated with diminished acuity for high-pitched musical sounds. Usually, an average loss of over 20 decibels is present for the conversational range before an individual will seek medical aid for a hearing deficiency.

Pathologically, structural changes are evident in the cochlea of the inner ear. Destruction and actual displacement of the receptor cells in the organ of Corti and the basilar membrane may be seen. These changes are first apparent in the basal coil, or the first turn of the organ of Corti, which corresponds to that section involved in the reception of middle- and high-frequency sound waves. As destruction progresses to the central portion, hearing loss occurs for the frequencies in the conversational range. There is no evidence that receptor cells once completely destroyed ever regenerate.

In addition to auditory changes, noise produces other adverse effects upon the body, nearly all of which are transient and disappear upon removal to a quiet area. In a small number of individuals a group of symptoms is produced following a relatively short exposure of from several hours to several days that we loosely classify as noise irritability. These persons complain of vague uneasiness, headaches, otalgia, tremors, nausea, vertigo, tenseness, and insomnia. This reaction occurs most frequently in the neurotic individual and may be affected by personal motivation. It is frequently independent of the actual noise level.

A small group of workers appear to perform more efficiently in the presence of a constant and expected noise. This is due to the insulating effect of noise against other distracting sounds. In general, however, loud noise is an annoyance which requires extra effort to concentrate on the part of the person hearing it with resultant increase in muscular tone, general metabolism and oxygen consumption. This extra effort leads to fatigue and diminution of work efficiency, with reduced daily production of over 50 per cent in some precision-type jobs.

Occasionally, complaints of vibration felt in the head and other parts of the body may be the dominant objection to noise. Vibrations are usually felt following exposure to high-intensity, low-frequency waves below 500 cps. These

are felt in the skull, face, and skin at intensities of 130–140 decibels. Above 140 decibels, vibrations may be felt in the chest, abdominal wall, and muscles of the extremities. Cerebral confusion results following this stimulation of somatic proprioceptive receptors, with resultant nausea, vomiting, headaches, fatigue, and neuromuscular complaints. Symptoms subside following removal to a quiet area.

Within the past few years, many symptoms and disorders have been attributed to the presence of ultrasonic sound waves, that is, waves of frequencies above 20,000 cps. Small furred animals have been killed by brief exposure to high-intensity ultrasonics, with death ensuing when the internal body temperature exceeded the lethal level. Man is a nonfurred animal with a very efficient heat-regulatory mechanism. It would require exposure to far greater ultrasonic intensities than are known to exist in industry today to produce any significant body change.

Perhaps the most universally undesirable property of noise is its interference with speech communication. If sufficiently intense all noise can, for practical purposes, render an individual deaf. This results in a potentially dangerous situation for the factory worker, as it blocks reception of verbal commands and auditory warning signals. The obvious result is an added safety hazard and is reflected in an increased accident rate. It impairs coöperative effort, reduces efficiency, and lowers morale. The ability of one sound to affect the audibility of a second sound is known as its "masking" effect and may be calculated for any sound with a known frequency distribution. This was an important consideration when the Air Force selected 85 decibels as the upper safe limit for continuous noise exposure. The masking effect of a noise field of 85 decibels is such that conversation between two people at a distance of six feet may be carried on in a loud voice without undue strain or discomfort.

Practical industrial noise control is a complex problem involving coöperative efforts of management, supervision, engineering, safety and medical personnel and, in the final analysis, the worker himself. The ideal solution is to eliminate the noise at its source. This implies the elimination, redesign, or substitution of excessive noise-generating equipment or the modification of existing procedures. Such a goal, however desirable, is probably impossible to attain. A more practical and feasible objective is the control of noise so that those closest to machinery will not be subjected to intensities in excess of 85 decibels. This can be accomplished by the use of sound-absorbing material in mufflers, cells, chambers, partitions, walls, and other means of structural isolation. Wherever possible, spatial isolation is highly desirable, as rapid attenuation of sound energy occurs by passage through air. This involves an actual loss of 6 decibels for each doubling of the distance from the sound source.

For those operations where attenuation of sound energy below 85 decibels is impossible, attempts must be made to reduce the intensity level at the ear of the receiver. This can be accomplished through the use of ear protectors—devices, which when inserted into the external auditory canal or over the auricle, absorb a variable degree of sound energy by providing resistance to the passage of sound waves.

To be fully effective, protectors must reduce intensity levels to below 85 decibels. They must be comfortable, noninjurious to the external canal, nonallergenic, and easy to apply, remove and clean. They are valueless unless properly worn as instructed. Individuals frequently exhibit a great deal of passive resistance to the application of any material into or upon the ear. As many

as 85 per cent will not wear protectors continuously after the first few trials. A tactful but forceful selling campaign is often needed for better compliance.

Protectors placed into the external auditory canal are of the insert type and may consist of loose cotton, rubber, plastics, synthetics, waxy preparations, and various combinations of substances including metal. Those most nearly meeting ideal requirements are wax-impregnated cotton and Neoprene inserts. Both afford protection of 25–35 decibels in the important middle frequencies and allow for safe exposure to sound fields up to 120 decibels. We have found wax-impregnated cotton to be more comfortable, but easily contaminated by grimy hands, hence discarded after one or two wearings. Loose cotton is undesirable for hygienic considerations and offers only 10–15 decibel attenuation. Chart 2 indicates the relative protection afforded by a single wax-impregnated cotton protector.

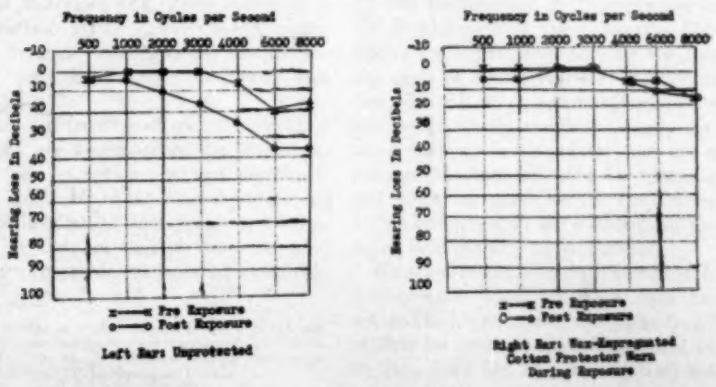
Some protectors, such as ear muffs and helmets, are worn over the ear. Ear muffs when properly constructed and worn provide 20–25 decibel protection. When worn over insert-type plugs, they allow safe ear exposure to sound fields up to 140 decibels.

Complete ear protection above 140 decibels is not possible; consequently, frequent rotation of exposed personnel is indicated, with complete recovery of hearing prior to reëxposure. Since the bone conduction threshold is 50 decibels above that of air conduction, inner ear overstimulation would occur at these intensities unless the entire head was encased in a protective device.

Since the great majority of workmen will not wear available ear protectors, it is of prime importance to industry to eliminate the noise-susceptible employee from potentially traumatic areas. This involves proper initial placement of new employees or transference of old employees to quieter areas.

Much work has been done on the development of a predictive test involving the exposure of applicants to loud tones or sounds of known intensities for short periods of time and measuring the degree of hearing loss and complete recovery time. It has been assumed that an excessive hearing loss or delayed recovery time probably indicates a susceptible individual. Unfortunately, no

Chart 2. Audiometric Findings Following 30 Minute Exposure to Speed Hammers (Average Noise Levels 104–106 Decibels)



such definite conclusion can be made until properly validated under actual industrial conditions.

In the absence of such a predictive test, industry must rely upon serial audiometric studies for detection of the noise-susceptibles. Preëmployment audiograms should be an integral part of the initial ear examination for all employees destined to work in noisy areas. Proper placement implies correct interpretation of this audiogram. Serial audiograms should be performed at intervals of one week, a month, or six months. They can be correctly interpreted only when they contain information concerning the intensity of the sound field, the constancy of exposure, time of day taken, history of intervening ear disease, and the wearing of ear protectors. Frequency of reëxamination should depend upon the audiometric records and subjective complaints.

For older employees, routine six month or yearly audiograms are indicated. Decisions as to corrective action to be taken in all cases, such as compulsory wearing of ear protectors or transference to a quieter area, should be based upon the extent of the threshold shift in the 3,000–6,000 cps frequency range, degree of involvement of the lower conversational range, the complete recovery time, and the progressive nature of the findings.

For the proper execution of such a program it is necessary to predetermine the sound field levels at various positions in the factory. This can easily be performed with a sound-level meter. All readings should be taken at the ear level of those exposed, under actual operational conditions. Sound spectral analysis should also be made at each site to evaluate better any subjective complaints.

Speech communication may be improved by electrical transmission and amplification of the speech signal. This is accomplished by the use of loud speakers and the microphone-earphone system as used in airplanes. It is of interest to note that in sound fields above 80 decibels speech is better understood when wearing ear protectors.

Finally, it may be stated that while noise problems do exist and must be recognized as such, preventive or corrective action is possible in almost every case. Energetic application of existing knowledge in the noise field must be practised by all concerned.

California Morbidity Research Project*

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THE California Department of Public Health is carrying on a research project on methods of measuring the volume and distribution of illness and disability in the general population. The primary objective of this project is the development of one or more feasible methods of morbidity measurement which can be used to provide valid illness and disability data on a current, state-wide basis. Funds for the project have been made available by a research grant from the National Institutes of Health.

Workers in the fields of medicine and public health are well acquainted with the need for current, valid information on illness and disability in the general population; information needed to determine the extent and magnitude of public health problems, to evaluate the progress being made in control programs against specific diseases and groups of diseases; and information needed to develop indices of the health status of a population group (city, county, state, and nation)—indices based on the extent and distribution of illness and disability.

Although reports of special morbidity studies are numerous in the literature, with few exceptions current morbidity data applicable to the general population are not available. More important, however, is the fact that we have no generally acceptable methods of obtaining such data.[1-3] The availability of acceptable methods of morbidity measurement would make it possible to meet the needs outlined. Moreover, such methods could be used to provide basic information for investigations of the relationship of socio-environmental factors and disease.

The California Department of Public Health and other state agencies have been made acutely aware of the need for adequate morbidity statistics during the past few years. In a number of recent investigations and studies carried out at the direction of the California Legislature, e.g., the chronic disease investigation, the rheumatic fever investigation, and the study of blindness in California, it was not possible to describe accurately the magnitude of the problem in question, partly because of the lack of current illness and disability data applicable to California.

Similar difficulties were experienced by the Department of Employment in the development of the California Disability Insurance Program; by the Department of Social Welfare, in connection with HR 6000, when estimating the number of totally and permanently disabled persons in the state; and by a number of state agencies in planning and preparing materials for the Governor's Conference on the Problems of the Aging held recently in Sacramento.

We are all familiar with the makeshift devices used when adequate data are not at hand. Estimates are made based on data for special population groups, or on data from the 15 year old National

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Health Survey, or on conjecture by experts. The alternative to these devices, that is, a one-time special study to obtain data specific to the problem in question, is exceedingly costly and time-consuming.

These considerations are responsible for the Department's interest in research on methods of morbidity measurement. During 1948 and 1949 the California Department of Public Health, with the assistance of the U. S. Public Health Service and the University of California School of Public Health, explored the possibility of undertaking research in the field of morbidity measurement and developed the plans for a research project. An application for a research grant was submitted to the National Institutes of Health in 1948 and resubmitted with revisions in 1949. The revised application was approved. Funds made available to the project were accepted by the Department effective May 1, 1950.

To assist and guide the Department in the project, a broad Advisory Committee was established, with representation from the California Medical Association, the California Physicians' Service, the Association of California Hospitals, the University of California School of Public Health, the California Conference of Local Health Officers, the State Department of Industrial Relations, and the State Department of Employment. Upon recommendation of the Advisory Committee, the first year of the project was devoted to an exploration of the problem, with specific reference to alternate methods of morbidity measurement which should be field-tested and evaluated.

As originally conceived, the research plan for the project contemplated the use of the household-sample survey method on a state-wide basis, with interviews conducted at quarterly intervals over a 2 year period. Provision was to be made for validating illness data reported by household informants and for comparing such data with illness data available from claims filed with the California Disability Insurance Program and with data from other operating program sources. The Advisory Committee, in exploring the problem with the Department, recommended that before testing any one method on a state-wide basis, several potential methods should be tested and evaluated in one area of the state. In making this recommendation, the Advisory Committee considered the following methods:

a. The use of operating program data for projecting illness rates for the general population.
b. Household-sample survey methods.
c. The collection of illness data from samples of physicians and hospitals.

The limitations of each of these methods were matters of serious concern to the Advisory Committee members.

In view of the special population groups served by operating programs and the exclusions and restrictions characterizing such programs, there is ample reason to doubt whether illness rates for the general population can be projected from such programs as by-product data. These programs are constantly changing in coverage and benefits; hence, if illness rates for the general population can be projected at one time, there is no assurance that comparable projections can be made at subsequent times. Also, the differences among operating programs throughout the country limit the applicability of this method, even assuming that the method should prove satisfactory in one state. These and other limitations of the method were considered.

The household-sample survey methods were viewed with considerable suspicion by physician members of the Advisory Committee. They questioned the validity and specificity of diagnostic information reported by household informants.

Other problems involved in the use of household-sample surveys were discussed at some length, e.g., the effect of the memory factor, the size of samples needed to obtain information on diseases with low frequencies of occurrence, and the high cost of such surveys.

It should be noted, as Dorn,[4] Stocks,[5] Woolsey and Collins[6] have contended, that to obtain general illness and disability rates, the method of choice appears to be the household-sample survey. However, it must also be noted that basic methodological questions concerning the household-sample survey method have not been adequately answered, particularly questions pertaining to response errors affecting the validity of information reported by household informants.[7]

The third method—that of obtaining illness data for the general population from a sample of physicians and of hospitals—was questioned by both the physicians and the statisticians on the Advisory Committee. This method would yield information only on medically attended illnesses. In addition, it remains to be demonstrated that a sample of physicians can be designed so that the patients served by the physicians in the sample are representative of all patients in the general population, in view of the wide variation in specialty, type of practice, and other characteristics of physicians. Furthermore, this method raises the problem of obtaining the active coöperation of a sizable number of physicians in a voluntary reporting program. Incidentally, for obvious reasons compulsory reporting by physicians of all attended illnesses was ruled out as a potentially useful method of general morbidity measurement early in the development of the project.

The limitations of these three methods led the Advisory Committee to the conclusion that it would be preferable to pretest potential methods in one area of the state before testing one or a combination of methods on a state-wide basis. The area selected for pretesting was San Jose, a city of 95,000 people, and a nearby rural area. Criteria used for selecting this area were: the population of the area should be between 50,000 and 100,000 people; the composition of the population should in general resemble that of the state as a whole; and the area should be relatively self-sufficient in terms of medical, hospital, and related services.

The plan for pretesting and evaluating alternate methods of morbidity measurement, which was put into field operation beginning on July 1, 1951, in the San Jose area, is outlined and then described in some detail below. The plan includes:

1. The collection of illness data from medical and related sources for residents of the San Jose area.
2. The collection of illness data from operating programs serving residents of the area.
3. The collection of illness data directly from persons in representative samples of the general population, using alternate household-sample survey procedures.
4. The verification of illnesses and diagnoses reported by household informants, using these methods:
   a. The matching of records from medical and related sources with reports from household informants, for illnesses reported as medically attended.
   b. The matching of reports obtained from physicians to verify illnesses reported by household informants as medically attended.
   c. The use of double sampling procedures to determine the reliability of illnesses reported as not having been attended by a physician.
5. The comparison of illness rates based on data obtained from different sources and by different methods.

There are two additional activities which have been proposed by Advisory Committee members and are under consideration for inclusion in the project: first, the collection of data at quarterly intervals from all physicians in San Jose, i.e., data on illnesses attended on a given day; second, the use of multiple screen-

ing procedures for a representative sample of the population to determine the extent of previously undiagnosed and undetected disease of certain types in the population.

Before describing the elements of the San Jose plan in further detail, it is important to point out that prior to the commencement of field operations in the San Jose area, approval of the study was obtained from the Santa Clara County Medical Society, the San Jose Advisory Board of Health, the San Jose City Department of Health, and the Santa Clara County Department of Health. It should also be pointed out that these organizations and agencies are actively assisting and coöperating in the study.

Illness data for residents of the San Jose area are being collected from the following sources: hospital discharge reports from all hospitals in San Jose and in the immediate surrounding area; health department reports (death certificates, notifiable diseases, reports of physically handicapped children, etc.); reports of industrial injuries filed with the State Department of Industrial Relations; disability insurance claims filed with the State Department of Employment; and reports of injuries treated at the San Jose Emergency Aid Station.

Illness data will also be obtained directly from persons in representative samples of households. The U. S. Bureau of the Census is coöperating with the Morbidity Research Project staff in the design of samples and survey procedures. Illness data from some of these sources mentioned will be used in pretesting items and questions in household-sample survey schedules; data from all sources other than household informants will be used to verify illnesses reported by household informants. Also, for verification purposes, physicians will be contacted directly to obtain diagnostic information for medically attended illnesses reported by a sample of household informants. In obtaining this diagnostic information, physicians will not be informed of the diagnoses reported in the household surveys.

Verification of medically attended illness reported by household informants will focus on three points: (1) the event of illness, irrespective of the accuracy or specificity of diagnosis reported by the household informant; (2) the accuracy of diagnostic information, in terms of agreement between household informants and physician sources when diagnoses are classified into very broad categories; and (3) the specificity of diagnostic information, in terms of agreement between household informants and physician sources when diagnoses are classified into narrower diagnostic categories.

Obviously, for illnesses reported as not medically attended, these verification procedures cannot be used. Data from matched samples will be used to determine the reliability of reports of illnesses not medically attended.

In the procedures referred to in the foregoing, emphasis is placed on the verification of illnesses reported in household-sample surveys. Of equal if not greater importance is the need to determine the extent of underreporting of illnesses where household sample survey methods are used. Several factors contribute to the underreporting of illnesses: the extent to which household respondents can remember past illnesses; the unwillingness of respondents to report certain diseases, including venereal diseases and mental diseases; and the lack of knowledge of the existence of disease by household informants. This last-mentioned factor embraces two sources of response error: first, the household informant may be unaware of disease in the family because the information has been kept from the informant; second, the household informant may be unaware of disease in the family because the disease has not been detected.

Collins, Phillips, and Oliver have presented evidence showing the importance of the memory factor in the underreporting of illnesses in household surveys.[8] Case finding studies, including those involving the use of multiple screening procedures, have revealed a not insignificant number of cases of previously undetected disease.[9, 10] Although it is well established that the factors mentioned contribute to the underreporting of illnesses, the specific effect of these factors is not known.

Procedures have been incorporated in the San Jose plan to obtain measures of the effect of several of these factors in the underreporting of illnesses. One procedure involves the use of the booklet or calendar device for day-to-day recording of illnesses by families in one of the samples used in the study. Illness data obtained from this sample will be compared with illness data obtained from another sample of families from whom data will be obtained in a single interview. A second procedure, mentioned earlier as one under consideration for inclusion in the San Jose plan, would consist of the use of multiple screening tests and follow-up diagnostic study, when indicated, to obtain a measure of the amount of previously undetected disease of certain types in a representative sample of the population.

One phase of the San Jose plan involves an evaluation of operating program data to determine whether and how such data can be used in measuring the extent and distribution of illness and disability in the general population. Only a limited evaluation specific to operating programs serving the study area is contemplated. In this evaluation, attention will be focused on methods of utilizing operating program data in conjunction with household-sample survey methods, rather than on the use of operating program data for independent measurement of morbidity in the general population.

From the work done in the San Jose area, it is hoped that one or more methods will evolve which will offer sufficient promise to warrant testing on a state-wide basis. State-wide application of such methods will constitute the second phase of the Morbidity Research Project.

In summary, the Morbidity Research Project represents an attempt to evaluate alternate methods of measuring the amount and distribution of illness and disability in the general population. Specifically, one or more methods are sought which can be applied on a state-wide basis to provide current and reliable illness and disability rates. This project differs from the many morbidity studies and surveys which have been conducted in the past in that the objective is not the compilation of morbidity statistics; but rather the development, analysis, and evaluation of methods for obtaining adequate current data on morbidity in the population. If such methods can be developed which meet with general acceptance, there is reason to believe that they will be adopted and used by health departments and other agencies to provide needed information on the health status of the population, to provide information for use in the evaluation of disease control programs, and to provide epidemiological clues for investigating the relationship of socio-environmental factors and disease.

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New England Health Institute

The theme of the 18th New England Health Institute to be held at the University of Connecticut, June 18–20, 1952, is "New Efforts For Health Improvement." It is being sponsored by official and voluntary health agencies in six New England states, including five state health departments and two schools of public health. Stanley H. Osborn, M.D., commissioner of health of Connecticut and Albert N. Jorgenson, president of the University of Connecticut will be hosts. Chester S. Bowers, health educator of the Connecticut Department of Health, is chairman of the Executive Committee which is responsible for the over-all planning of the Institute.

The Role of the Practical Nurse in Public Health Nursing Services*

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NINE years ago the American Public Health Association, at its annual meeting, passed a resolution urging that bedside care of the sick at home be made available to every patient who needed it. This goal has, of course, not been reached today, but we *have* made progress toward it. Many official agencies have broadened their programs to include bedside care, while some voluntary organizations have included this type of service on an increasing scale; and at the same time newly organized official, nonofficial and combined agencies have recognized that this was an important part of their programs from the very beginning.

Three factors are operating at the present time which complicate our job: First, the shortage of public health nurses and even registered nurses who are not specially prepared in public health—a shortage that is bound to last some time; second, the shortage of dollars—a perennial problem in most places; and, third, the increase in numbers of patients needing bedside, or at least patient-side care.

Many adjustments have been made by our agencies to aid in solving the problem but more will be necessary.

In February of this year a statement was published by the Joint Committee on Nursing in National Security [1] which opens with the words, "Nursing has been placed on the list of critical occupations by the U. S. Department of Labor" and goes on to indicate ways of recruiting and holding nurses for the job. In a companion statement prepared by the National Organization for Public Health Nursing and relating to public health nursing in the National Security Program,[2] the following has particular significance: "The demand for professional nurses may be even greater than during World War II. Therefore, qualified practical nurses, nurses' aides, and auxiliary workers, both paid and volunteer, will be a vital factor in helping to carry on necessary civilian services." One of the recommendations made is that authorities responsible for the national security program in coöperation with the nursing profession and others "provide facilities for training a sufficient number of practical nurses, nurses' aides, and auxiliary workers who can help public health nurses give both normal and emergency service."

These two statements were followed in May, 1951, by what may prove an even more important one, "Recommended Adjustments for Public Health Nursing Services in the National Security Program."[3] It was prepared by a special NOPHN committee whose members included representatives of voluntary and governmental agencies in different parts of the United States, persons in various kinds of positions within those agencies, and both nurses and non-nurses. One section of this statement

* Presented before the Public Health Nursing Section of the American Public Health Association at the Seventy-ninth Annual Meeting in San Francisco, Calif., October 31, 1951.

deals specifically with the employment of practical nurses as one means of extending nursing services as far as possible and meeting priorities for care in the community. In general, the recommendation is that qualified practical nurses, preferably graduates of approved schools of practical nursing and licensed by the state, be employed to give "(a) Simple nursing care to a person if he and his family do not require much instruction, (b) simple treatments, (c) hypodermic injections of well known drugs that require no fractional dosage."

Without question the most logical place for practical nurses to function is in bedside programs, although exploration of their possible role in large health clinics is certainly in order if we really mean what we sometimes say so glibly, that we are determined to utilize the skills and abilities of well qualified public health nurses where they *alone* can function effectively; and if we really are resolved to release and save their time now all too frequently consumed in activities that could be discharged effectively by those less well prepared. As yet, we have insufficient knowledge of the full limit of the responsibilities which can be entrusted to practical nurses working under the close supervision of public health nurses. We need to move slowly in our exploration in order to safeguard patient care, *but we need to move.*

Many persons are surprised to find that the idea of introducing practical nurses into public health nursing programs is not of recent date. Back in 1919 the Cleveland Visiting Nurse Association not only employed them but trained them through a plan not too different from some plans in use today.[4] Also in 1919, the Visiting Nursing Association of Springfield, Mass., hired a group of "women of tact and common sense" to help the graduate nurses with their difficult cases and to give care to chronic and convalescent patients.[5] In 1923–1924, the NOPHN Committee To Study Visiting Nursing made its first study on the cost of visiting nursing, recognized the existing employment of paid nonprofessional assistants in clinics and home visiting, and supplied a method for estimating the cost of their service.[6] It is likely that the Community Health Association of Boston was the first to employ graduates of a school of the type that we recognize today as giving sound preparation for practical nursing. This was in 1933. The plan was later given up, to be readopted in 1941 and continued to the present. They were followed by the Henry Street Visiting Nurse Service (now the Visiting Nurse Service of New York) in 1942[7] and by the Brooklyn Visiting Nurse Association in 1943.[8]

But the growth in the employment of practical nurses by health agencies has been slow. In 1942, of the 584 agencies responding to NOPHN's annual review of member agencies, 16, or 3 per cent, stated that they employed practical nurses. The responses to a similar question came from 591 agencies in 1951, when only 26, or 4.4 per cent, stated that they employed them. Of these, 19 were nonofficial agencies, 3 were city health departments, 3 were combined agencies, and 1 was a county health department. The total number of registered nurses employed by the 591 reporting agencies in 1951 was 1,414 and the total number of practical nurses was only 92.

Recently I asked the Metropolitan Life Insurance Company if they could tell me how many of the visiting nurse associations with whom they contract for services have asked for a Practical Nurse Rider. In replying, Marie Johnson wrote, "We are rather surprised that only 13 of our affiliated agencies have asked for a Practical Nurse Rider." Of these, 1 is in Connecticut, 2 are in Massachusetts, 4 are in New York, 2 are in Michigan, 1 is in Wisconsin, 2 are in Minnesota, and 1 is in Ohio.

We are making progress, but to some of us it seems very, very slow, and we ask why. One reason which is often given is that the supply of graduates of approved schools of practical nursing is quite inadequate. However, the growth in schools during the past ten years has been rather startling. From around 20 in the country in 1940, we now have 153 *approved* schools. These are located in 39 states. In 1949 about 5,000 women were graduated, in 1950 over 6,000. Recruitment remains a problem, however, and the schools are operating at only about 82 per cent of capacity.

It is interesting to see where the graduates of the schools of practical nursing are employed, since only 100 at the outside are with health agencies. The U. S. Office of Education has recently made a study of all practical nurses prepared in schools operating under public supervision and control.* This shows that 60.5 per cent of the graduates were working in hospitals, 10 per cent were doing private duty in homes, nearly 6 per cent were in other institutions (such as nursing homes), and 2 per cent were engaged in non-nursing occupations, while 22 per cent were unemployed or their whereabouts were unknown. This distribution is quite similar to analyses of graduates made by individual private schools.

Another reason which is sometimes given is that even the curricula of approved schools of practical nursing show a wide divergence both in length and content and therefore the basic skills of their graduates are so uneven that assignment of responsibilities is well-nigh impossible. This situation is now being changed. Today over 95 per cent of all schools have a course of approximately one year, and since the publication of the national suggested curriculum in 1950[9] the content of these courses is being strengthened and improved and points of similarity are more marked.

The National Nursing Accrediting Service is now seriously considering the possibility of offering its services to schools in this category in the near future. This cannot help but have marked upgrading effects and should have the whole-hearted support of all public health nurses.

Not only is the supply of qualified practical nurses increasing in number and in quality, but their easy identification through state licensure is becoming a better and better guide. Thirty-six states, and two territories now have licensing laws affecting practical nurses (or those with other similar title). In five states and one territory this is mandatory legislation; in the rest it is permissive but the use of the title by unlicensed persons is usually protected.

Practical nurses themselves have recently organized into the National Federation of Licensed Practical Nurses. This baby organization now has about 1,000 members, with a potential of many times that. Its objectives are, in general, to do for practical nurses what the ANA aims to do for professional nurses, and the ANA has recognized this in many ways by offering active or consultant membership to representatives of the Federation on a number of important committees.

Because of these recent developments, it would seem that we are now in a position to look carefully at our nursing programs to see whether there are not jobs which can be done—and done well—by this type of nurse working under supervision, and it would seem, also, that public health agencies are in a position to attract practical nurses in sufficient numbers to make a real impression on our patient care programs. If each of the 565 agencies which told the NOPHN this year that they did *not* employ practical nurses would put only one practical

* There are 144 such schools today. Not all of them are "approved," chiefly because they are operating in states without laws designating an approving authority.

nurse on their staffs, a sizable dent in the staffing problem would be made. Think what we could do with only 565 more public health nurses!

But agencies will, of course, want to move slowly in order to safeguard the patients' welfare. They will want to develop and adopt some guiding principles and policies for this new departure. And they should. Through experimentation and study, we already have some guideposts which can be highly recommended for consideration.[10] These include such procedures as are indicated in the following:

1. *Careful selection of the practical nurse*—It is strongly urged that only graduates of approved schools of practical nursing be employed by public health agencies, since supervision, even at its very best, is bound to be remote and sporadic. Licensure by the state is imperative wherever licensing laws exist. In addition to the usual health and personality requirements that govern the selection of any staff member, it is particularly important that practical nurses be selected who have an attitude of friendliness and a willingness to work closely and coöperatively in a team relationship with professional nurses.

2. *Careful orientation of the professional nurse staff and others*[11] *who will be working with the practical nurse*—so that they will have a clear understanding of the plan before the first practical nurse is employed. Part of this orientation may be through committee participation by supervisors and staff while the work situation is being examined and guiding policies regarding practical nurse employment are being set down. Such orientation of existing staff will do much to create a friendly attitude and an understanding of the team idea so that the practical nurse will be used to advantage and will not be expected to discharge any or all activities which others dislike or have no time for. Under-use of practical nurse abilities is to be avoided just as is unsafe over-use.

3. *Careful orientation of the new practical nurse*—Detailed plans must be made and followed for introducing these new workers. This is especially important when the first practical nurses are employed. Demonstrations and conferences will be needed which are germane to their work. In order to avoid any idea on the part of the practical nurse that she can discharge all responsibilities of a public health nurse, it has been found advantageous to have her observe the work of the professional for at least part of a day. Seeing and hearing at firsthand both what she does and what she is asked to do is much more effective than merely being told, "This is your job and that belongs to the public health nurse."

4. *Development of detailed guides for the work of the practical nurse, spelling out the way in which she fits into the program*[12]—These guides should include the supervising methods decided upon for assignment of work and supervision of the practical nurse. In working out these guides, the best criterion for deciding whether or not a practical nurse may give care to a patient is his specific nursing needs, as determined by a qualified professional nurse. It is folly to attempt to set up lists of duties which may be performed under all circumstances by the practical nurse. A basic principle in the utilization of practical nurses in public health programs is that the patient remains at all times the responsibility of the professional nurse and that his nursing needs must be re-evaluated periodically by her to assure maximum satisfaction from both the therapeutic and safety points of view. All employees should be thoroughly familiar with these guides, which should

be available for ready reference by the practical nurse and others.

5. *Development of personnel policies fair to both practical and professional nurses*—Once employed, the practical nurse should become an integral part of the nursing staff. This means that her work conditions should be covered by the same policies and she should be assured a place in the staff council association and on appropriate committees of the staff. Her salary scale must be decided upon with due regard to the cost of living and to the length of her preparation and responsibilities in comparison with public health nurses.

6. *Assurance of participation in in-service education programs*—Wherever it is appropriate she should be included in the educational programs for the rest of the staff. It is also likely that in-service education tailor-made to fit her special needs will be advantageous. When more than one practical nurse is employed, group conferences fill a real need.

More and more professional nurses are concerned by the absence of professional nursing supervision for practical nurses doing special duty in homes. Here is another place where public health nurses may pioneer for the community's welfare. For who is better prepared than they to provide supervision and participate in the periodic evaluation of patient needs? More and more often we hear of instances where practical nurses telephone the VNA and ask for advice. Why are we not more concerned in setting up a community plan to aid in safeguarding this type of patient care?

One visiting nurse association [13] has recently completed a year's demonstration, on the training and use of the practical nurse student in home care of patients with cancer, which would seem to indicate that other public health agencies might profit by assuming responsibility for similar training programs.

Through the introduction of practical nurses onto their staffs, participation in their training programs, and recognition of the need to make nursing supervision available to private practitioners, public health agencies can make yet one more important contribution to nursing care.

SUMMARY

Qualified practical nurses are becoming available in increasing number throughout the country.

The growth in the employment of practical nurses in hospitals has been very rapid, but the same is not true in public health agencies.

In January, 1951, only 26, or 4.4 per cent, of 591 reporting public health agencies stated that they currently had practical nurses on their staffs, and most of these were used in bedside programs.

Where practical nurses have been employed, they proved to fill an important role satisfactorily, and specific guides for their use have now been developed in a number of agencies.

Further controlled exploration to discover the maximum use of practical nurses in public health agencies is sorely needed. Such exploration will cover the range of appropriate responsibilities which may be discharged by practical nurses, as well as methods for patient assignment, supervision of the practical nurse, and desirable ratios of public health nurses to practical nurses working under various types of conditions. The possibilities for more widespread participation by public health agencies in approved programs preparing practical nurses should be explored, since such agencies are strategically situated to contribute unique educational experiences in patients' own homes.

Community plans should be developed which will provide supervision for

practical nurses on special duty in private homes. It is suggested that supervision might well come from public health nursing agencies which are themselves well supervised.

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IF IN OUR IGNORANCE, our short-sightedness, our lack of courage and vision we continue to deny our children the blessings of physical well-being; if, moreover, we continue to inculcate in them prejudices, uncritical and emotional beliefs in unreasonable things, excessive fear of others and, as a result, aggressive desire for power and domination, then we can be sure that the world of tomorrow will be a world of fear, of chaos, of cruelty—and of death.

If, on the other hand, we succeed not only in making our children physically healthy but also in freeing them of our taboos, our anxieties, our destructive impulses; if we teach them to feel, and to act in accord with a sense of responsibility for the welfare of their fellow human beings—not just locally, not just nationally but for the whole human race; if, in other words, we help them toward real maturity, then we need not worry about our future and theirs: it cannot but be secure, peaceful and truly rich in the values that make life worthwhile.

To resolve now to dedicate our energies to the healthy development of our children will be to provide ourselves and them with one of the strongest possible guarantees that Man's age-old dream of a better and happier world shall after all become a living reality.

BROCK CHISHOLM, M.D.
Director-General
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The Value of Influenza Virus Vaccination in Industry

C. F. YEAGER, M.D.

Remington Arms Co., Inc., Bridgeport, Conn.

INFLUENZA in Connecticut during late February and March, 1951, was prevalent in many areas. Although there was no general prevalence in the United States, the Influenza Study Program of the U. S. Public Health Service reported outbreaks in New England, New York, Pennsylvania, Ohio, Illinois, the West Coast, and Texas. According to a report on the third year of operation of the Influenza Information Center of the National Institutes of Health, the disease was mild and nearly all outbreaks were identified as the A-Prime type.

An outbreak of respiratory infection resembling influenza was observed at the Remington Arms Co., Inc., in Bridgeport, Conn., in late February and March, 1951, among the 2,799 employees. A total of 350 cases of respiratory diseases occurred between February 20 and March 31, 1951. These were carefully studied in an attempt to evaluate the possible efficacy of influenza virus vaccine in preventing influenza. In this series of cases all employees lost time in excess of 2 consecutive working days. For example, an employee who worked on Wednesday but did not work the remainder of the 40 hour week because of a respiratory infection and who returned to work the following Monday was not included in this report.

Following an analysis of the 350 cases, it was concluded that 198 had had clinical influenza. Reports from other industries in Bridgeport during this same period showed an unusually high incidence of absenteeism caused by influenza. Absences in some industries ran as high as 20 to 25 per cent.

For the past 5 years employees at the Remington Arms Co., in Bridgeport have been given the opportunity of receiving immunizing doses of influenza virus vaccine. The injections were always given in November and December in the plant hospital strictly on a voluntary basis. In November and December, 1950, a total of 555 employees were vaccinated. In late February and March, 1951, an additional 292 employees requested and were given the vaccine. This totaled 847 vaccinated, representing 30.26 per cent of all employees at the Bridgeport plant. It is safe to state that the request for the additional vaccinations was due to the publicity in the local newspapers calling attention to outbreaks of influenza in Bridgeport and other areas. The influenza vaccine administered contained a mixture of types A and B. The percentage of each of the strains used is as follows: PR8, 22.22 per cent; FM-1, 22.22 per cent; Cuppett, 22.22 per cent; and Lee, 33.33 per cent.

Not until February and March, 1951, was there an opportunity to study the effects of immunizing the employees with influenza virus vaccine. It was recognized before the analysis was begun that the method used in obtaining the results would be open to question by any scientific investigator in this field, and apologies are made for our limitations and shortcomings. To the writer's

TABLE 1 *

Influenza Survey, February and March, 1951

Name of Employee †	Date of Onset	Days Lost	Maximum Temperature	Weakness	Throat	Chills	Sweating	Joint Pains	Cough	Headache	Vertigo	Dysentery	Diagnosis	Flu Vaccine	Date Received	Medication Received
	3/13	6	102	2+	2+	2+	2+	2+	0	2+	2+	0	Flu	No		Penicillin
	3/10	8	102	2+	0	2+	2+	2+	0	2+	2+	2+	Flu	No		Penicillin
	3/8	10	?	0	3+	0	0	2+	0	0	2+	0	Grippe	No		Sulfa Drug
	3/12	6	101	2+	0	3+	3+	3+	0	3+	2+	0	Flu	Yes	11/13/50 3/ 8/51	Sulfa and Penicillin
	3/9	9	101	0	3+	2+	2+	3+	0	3+	2+	0	Flu	Yes	11/16/50	Capsules?
	3/7	11	102	2+	0	2+	2+	3+	3+	3+	2+	0	Flu	No		Sulfa and Penicillin
	3/14	4	99.2	2+	2+	2+	2+	2+	0	2+	0	0	Cold	No		Sulfa Drug
	3/12	5	101.6	2+	+	2+	2+	3+	2+	3+	0	0	Flu	No		Penicillin
	3/10	9	?	2+	+	2+	+	3+	3+	3+	0	0	Flu	No		Penicillin
	3/14	4	?	0	0	0	0	2+	2+	2+	0	0	Flu	No		Streptomycin
	3/12	6	99.4	0	0	2+	2+	2+	2+	2+	0	0	Flu	No		Sulfa Drug
	3/9	9	102	0	3+	0	3+	3+	3+	3+	0	0	Flu	No		Penicillin
	3/9	9	101	2+	2+	2+	2+	2+	0	3+	0	0	Flu	No		Penicillin
	3/9	9	?	0	0	2+	0	0	2+	2+	0	0	Flu	No		Capsules?
	3/13	3	100	1+	1+	0	2+	2+	0	1+	0	0	Cold	No		Penicillin
	3/9	9	101	2+	2+	2+	2+	3+	2+	3+	2+	0	Flu	No		Capsules?
	3/2	17	103	3+	3+	4+	4+	4+	+	4+	2+	0	Flu	No		Penicillin
	3/10	9	104	3+	3+	3+	3+	3+	0	3+	3+	0	Flu Quincy Throat	No		Penicillin
	3/14	5	101	2+	3+	3+	3+	3+	0	3+	2+	0	Flu	Yes	11/16/50	Sulfa Drug
	3/14	3	101	2+	2+	2+	1+	1+	2+	2+	0	0	Flu	No		White Pills?

* Shows method used by examining physician in recording information deemed necessary for this type of survey. Three sources of information were available:
(a) Physician's statement on insurance forms
(b) Visiting nurse contact
(c) Direct questioning of employees in plant hospital at the time of employee's return to work
† Omitted from this presentation.

knowledge, no isolated virus was obtained in any of the cases studied.

The industrial physician has excellent opportunities to study the effects of preventive medicine. Any significant mass deviation from the normal health would be called to his attention immediately. Furthermore, industrial managements have found that it is good business to have preventive medical programs. Industry is dependent upon the average attendance of its employees, with allowances made for seasonal increases in absenteeism resulting from illness. Any large-scale epidemic would not only cut into the profits of the industry, but it might conceivably bankrupt it.

Most of the basic information which was necessary in the survey of the 350 cases was obtained in the plant hospital when the employee returned to work following his illness. Each employee was carefully interviewed and the information he gave when questioned specifically about his illness was charted (see Table 1). In some instances leading questions had to be asked in order to evaluate the case properly. Many of the employees were seen at home during their illness by the plant visiting nurse, and the information she obtained was most helpful in the survey. Of definite value also was the family physician's diagnoses written on insurance claims.

Among the 1,952 unvaccinated employees, there were 183 cases of clinical influenza, while only 15 cases appeared in the 847 vaccinated, or a 9.4 per cent incidence in the unvaccinated group as compared with 1.77 per cent in the vaccinated group. The average number of days lost was 8.0 days in the vaccinated group and 8.2 days in the control group (see Table 2).

TABLE 2

Average number of employees working from November, 1950 to March, 1951	2,799
Total number of employees given vaccine	847
Total number of employees unvaccinated	1,952
Number of cases—vaccinated group	15
Incidence—vaccinated group	1.77%
Number of cases—unvaccinated group	183
Incidence—unvaccinated group	9.4%

The results obtained are almost identical with those of Francis, Salk, and Brace; who described an epidemic of Influenza B under controlled conditions and reported an incidence of 9.91 per cent infection in an unvaccinated group, while 1.15 per cent of the vaccinated group showed evidence of infection.

CONCLUSIONS

1. An outbreak of respiratory infection resembling clinical influenza was observed in late February and March, 1951, among workers at the Remington Arms Co., Inc., Bridgeport, Conn. Reports from other industries in Bridgeport indicated similar observations and there was an exceptionally high incidence of absenteeism.

2. If it can be presumed, in the absence of laboratory diagnosis designating the specific virus, that the outbreak was due to the A-Prime influenza virus, as was found in other communities during this period, the results obtained in this series of cases strongly indicate that the subcutaneous injection of 1 ml. of influenza virus vaccine containing 22.22 per cent FM-1 did significantly reduce the incidence and exert a striking protective effect against the disease.

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WHAT IS PUBLIC HEALTH?

WHEN your neighbor enlarges and repaints his house, it is natural to congratulate him, on his own account and because he has contributed to the general amenity of the neighborhood. Such an occasion for mutual felicitation is presented by the appearance this year of *Public Health Reports* in a new and more attractive format and with greatly increased scope. There is ample room in the field for both this new monthly and the *American Journal of Public Health*. Coöperation between us should provide an excellent opportunity for teamwork between an official governmental agency and a voluntary organization of professional workers, tilling together the fruitful fields of public health.

The leading article in the March issue of *Public Health Reports*[1] illustrates how close such coöperation may be. Its author, the late Dr. Joseph W. Mountin was chief of the Bureau of State Services of the Public Health Service and a member of the Executive Board of the APHA. His untimely passing is widely lamented. His article is an effective appeal for the broadening of our concept of the field of public health, based largely on an APHA Committee Report on the Local Health Department.[2]

Dr. Mountin pointed out that "the progressive nature of public health makes any restricted definition of the functions and responsibilities of health departments difficult. More than that—there is a real danger in attempting to narrow down a moving and growing thing. To tie public health to the concepts that answered our needs 50 years ago, or even a decade ago, can only hamstring our contribution to society in the future." He cited the conclusions of the Committee that definitions of local health responsibilities in narrow terms "based on limited categories" must become "quickly outdated." On the other hand, a statement of optimal responsi-

bilities expressed in terms of their general objectives may be the basis for vital development in the future. Public health service is not a fossil to be described and classified, but a living and a growing organ of society.

The seven types of local health service listed by the Committee are definitions of this kind. They include the recording and analysis of health data, health education and information, supervision and regulation, provision of environmental health services, administration of personal health services, operation of health facilities, and coördination of activities and resources.

An Expert Committee on Public Health Administration of the World Health Organization, under the chairmanship of Dr. Karl Evang of Norway and with Professor Ira V. Hiscock, chairman of our Committee on Administrative Practice, acting as rapporteur, presented to the World Health Assembly last month a list of potential health activities which included the following major headings:

1. *Environmental Sanitation*—including not only water supply, waste disposal, control of stream pollution and atmospheric pollution, control of insects and rodents, and protection of workers in dangerous trades, but also housing, town and country planning, and land conservation.
2. *Personal and Social Services*—for the healthy (mothers, children, industrial workers, and the aging); for the handicapped, and for the sick.
3. *Control of Communicable Diseases*—by laboratory and epidemiological control and by isolation and quarantine.
4. *General Services*—including health promotion (nutrition, physical education, and health education—mental and physical); legislative control of foods and drugs and the like; provision of essential medical and sanitary supplies; surveys, statistical analyses, assessment of services, and appraisal of results.
5. *Professional Education.*
6. *Research*—including controlled field studies.

Furthermore, this WHO report lists the following community services having a bearing on health, with which the health administrator should be prepared to collaborate. The headings cited are: Social Welfare, Social Security Measures, Education, Food Production and Distribution, Utilization of Land, Veterinary Services, Labor Standards, Recreation, Transport and Communication, Youth Movements, Irrigation, Environmental and Personal Cleansing Services, Conservation of Natural Resources, and Population and Family Planning.

Does the reader's head swim? The Editor's does, a bit. Does the question arise whether these problems are all well handled in the United States by other agencies? The answer to this is less certain. Perhaps the reader may analyze his own local situation and provide at least an approximate reply. All these factors do influence the health of a community. If they are not handled well, perhaps it is the function of the health officer to seek for and to suggest or supply a remedy.

To contribute to such far-reaching aims it is essential, as Dr. Mountin pointed out, not only to focus vision on the past of the health department, but to look forward to its own future role. This calls also for the utilization of technical skills quite foreign to our conceptions of 1900 or 1920—skills, for example, of "cardiologists, psychologists, medical social workers, nutritionists, even economists and sociologists"; and it involves active coöperation with hospitals, with practising physicians and dentists, with housing officials, with educational and recreational groups, and with industrial and labor organizations.

The health department, Dr. Mountin believed, should be the spearhead of a social movement, and should provide for that movement technical and administrative guidance. "It should contain the social perspective and the wealth of com-

petency to be able to perceive the need; and it should have the courage to take whatever action is necessary."

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INDUSTRIAL HEALTH IN THE TROPICS

A HANDSOMELY printed volume issued by the Harvard School of Public Health makes available the discussions presented at a conference held a year ago to consider the problems of industry in tropical areas.[1] Problems arising in the Middle East, in Tropical Africa, and Tropical America are discussed by prominent experts on infectious diseases and industrial hygiene and by medical officers of the increasing number of large American industries responsible for major enterprises in tropical areas.

The breadth of the field covered is indicated by Dr. Hugh R. Leavell in his list of four major fields of public health interest which are important "regardless of the part of the world concerned." They are:

1. Health Promotion
2. Prevention of Disease
3. Diagnosis and Alleviation of Disease or Injury
4. Rehabilitation

This is a far cry from some of our earlier definitions of the field of public health; and the various topics range from industrial medical services, the use of antibiotics, the elimination of malaria from Sardinia, and the air-conditioning of hospitals in regions where an operating room temperature must be kept up to 80° F. if high incidence of pneumonia is to be avoided—to the control of yaws in Liberia, where the provision of adequately protective shoes is a major method of prevention, and the possible relation of salinity in the rivers of Iraq to the prevalence of the snails which serve as carriers of schistosomiasis.

The use of DDT and penicillin for the prevention of malaria and the treatment of the treponematoses, of course, bulk large in this volume; and the intestinal diseases are of vital significance, as in the plant of the Ludlow Jute Company in Calcutta, where in 1949 the workers showed 133 per cent annual incidence of malaria and a 94 per cent incidence of gastrointestinal diseases. The problems of housing shortage and of inadequate diet are, however, of almost equal importance. Col. J. J. O'Dwyer, medical officer for Lever Brothers, reports that in Indonesia the average diet provided only 1,800 calories, so the local Lever Brothers office is now supplying an additional 1,700–1,800 calories a day for its employees.

The hospital problem in many areas is a critical one. The Standard Oil Company of New Jersey in 1940 provided a three million dollar budget for the medical expenses of its Latin American affiliates. By 1950 the figure had risen to more than nine million dollars. Dr. R. C. Page believes that the mounting cost of treatment must be checked by more fundamental preventive measures. "The road ahead should be one of coöperation between competent governmental authorities, professional associations, and private industry, wherever it operates, to make possible: (1) The expansion and improvement of sanitation and public health systems; (2)

The establishment of adequate first aid, bed care, and other facilities for the community; (3) The expansion of public information on diet, hygiene, etc."

Other papers in the Harvard volume provide concrete examples of the economic values of such basic health protective programs.

Dr. T. E. Allen reports that a malaria control program, jointly financed by the Government of Saudi Arabia and the Company, reduced the annual incidence of malaria among company employees from about 2,000 cases to 117 in 1948–1949 and to 53 in 1949–1950. The cost of the DDT used in the program was $45,000, and the saving to the Company alone was $152,000 in the latter year.

Dr. H. C. Clark notes experience with a group of workers imported for six months each year from Haiti to work on sugar plantations in Cuba. These workers produced about 0.9 tons of cane per day, as against 1.5 tons for local Cuban labor. In recent years the prospective workers have been selected after a rough physical examination and treated for malaria and for intestinal worms. Their production now averages nearly 1.6 tons a day.

Dr. E. S. Salisbury of the United Fruit Company reports that the hospitalization rate for its employees is now 2.6 days per year, or one-half of what it was twenty years ago, at a saving of about a million dollars a year. The cost of housing the workers has been greatly reduced. "In the early days we would have to build for 500 laborers in order to have 250 out working the next morning."

"Public Health is Purchasable"; and the investment is a profitable one.

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1. *Industry and Tropical Health. Proceedings of the First Industrial Tropical Health Conference, Sponsored by the Harvard School of Public Health, December 8–10, 1950, Boston, Massachusetts.* Boston: Harvard School of Public Health for the Industrial Council of Tropical Health, 1952. 305 pp. Reviewed in *A.J.P.H.* 42, 4:461–462 (Apr.), 1952.

SCHOOL CHILDREN HAVE PARENTS TOO

IT used to be said that "good wine needs no bush." We believe, of course, that all the papers accepted for publication in this *Journal* are good and that they speak for themselves. Now and then, however, an article comes along which just happens to stir the editorial endocrines to such an extent that the editorial ink has to flow. Such an article is the Annual Meeting paper by Dr. Singer-Brooks in the present issue.

The concept of "parent participation in the school health program" is by no means a novel one; but it has surely never been more effectively applied, or with more demonstrable success, than in the San Francisco demonstration here described. All the parents of children in selected grades in a project elementary school (representing about 360 children) received a request to fill out a Health Inventory containing questions about their offspring, including not only recognized health problems but also items on health practices and the child's interests and activities outside of the school.

The following figures seem to reveal a quite remarkable measure of success:

87 per cent of inventories were filled out by parents in ten days.

36 per cent of children were reported as being physical or mental problems, of a type considered by school authorities to warrant follow-up.

10 per cent of parents requested an opportunity to discuss their children's health problems with the school personnel.

The special values of this demonstration would seem to be three in number. In the first place, the information provided by the Health Inventory on family backgrounds, economic status, past and present health problems, immunization status, current health habits and practices has proved of the greatest value in providing the school physician with background data which simplified and made meaningful his examination and facilitated his interpretation to the family. The fact that 77 per cent of the children received care from private physicians stimulated the organization of a Medical Advisory Committee of community practitioners to study the problems involved.

Secondly, the influence of the Health Inventory upon classroom teachers in their role as health educators was profound. Ninety-nine per cent of the teachers found the information helpful, 76 per cent of them noting particularly the data provided on emotional health. Three-fourths of the teachers used these data for some form of referral for health service and about the same proportion found them of assistance in their teaching program.

Finally, and most important of all, is the influence of such a procedure as is here followed on the parents themselves. Here is the very essence of health education in the modern meaning of that term. *Participation* in the truest sense is involved. The filling out of the Health Inventory by the parent (perhaps for the first time) causes that parent to evaluate consciously for himself or herself the actual status of the child's health and, by implication, leads him or leads her to consider the possibility of a concrete program of improvement. It would hardly be possible to conceive a more effective instrument for motivating concerted action by the parent, the teacher, the doctor, and the nurse.

A NEW VOICE FROM THE EAST

ON the shelves of the library in which the Editor does much of his work are seven current periodicals from India, the *Indian Medical Gazette, Indian Medical Journal* and *Indian Medical Record* as well as the *Indian Journals*, of respectively, *Malariology, Medical Research, Pediatrics,* and *Venereal Diseases*. These are only, of course, samples of the important scientific contributions of Southeast Asia.

Special welcome, however, should be offered to a newcomer in our own special field, *The Pakistan Journal of Health*,[1] which published its first issues last year under the leadership of Dr. K. S. Shah, a distinguished recent visitor to the United States. The wide scope of this journal is illustrated by the fact that its second issue contains major articles on the diagnosis and treatment of chest diseases, on bionomics of local mosquito vectors of disease, on the results of the use of iodized salt in the control of goiter, on the relation of vitamin deficiency to night blindness, on inguinal hernia, and on the dynamics of bone formation.

We hail the appearance of this new sister-journal with very special pleasure.

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1. Published by the Institute of Hygiene and Preventive Medicine, 6 Birdwood Road, Lahore.

Credit Lines

The Journal cannot furnish copies of items mentioned in Credit Lines. Please send requests to the addresses given.

TECHNICAL ASSISTANCE IN PUBLIC HEALTH

A Summary of the Story

The new *Public Health Reports* in its April issue has an excellent summary of international technical assistance in public health. With maps, pictures, and text, the story is told the world over in seven main regions. WHO, UNICEF, the Technical Assistance Cooperation Administration, the Mutual Security Agency, specialized organs of the UN such as the Food and Agriculture Organization, the International Labor Organization and UNESCO have each had a hand in various health programs throughout the world.

Public Health Reports is to be congratulated for thus putting a mass of material found in many places into an organized story for the reader. The Service is in a strategic position to do this job since it supplies technical support and much of the health personnel for both TCA and MSA.

In addition, the April issue has a summary of the work of each of the 18 expert committees of WHO by leaders in the particular province of the respective committee—Abel Wolman for environmental sanitation; Lucile Petry for nursing; Halbert Dunn, M.D., for health statistics; William C. Menninger, M.D., for mental health; Ira V. Hiscock for public health administration, among others.

A NEW GROUP LEADERSHIP TOOL

Adult Leadership, new monthly publication of America's adult education movement, is published by the new and not-for-profit Adult Education Association of the United States of America. The magazine is made possible by a grant of $94,000 from the Fund for Adult Education, an independent organization established by the Ford Foundation. The first issue, dated May, 1952, a program planning issue, is devoted to suggestions for planning the program and conduct of meetings and conferences. Subsequent monthly issues will deal with such group leadership problems as: How To Be a Good Leader, Selection and Use of Resources, Being Effective in Your Community, How To Be a Good Group Member.

Each issue provides a "Tool Kit" for group leaders, a Problem Clinic, and means by which readers actually participate while they read and also plan the contents of future issues. The Tool Kit for this issue is eight pages of concise, practical methods.

Public Health workers as active adult educators and leaders will find this magazine of practical use.

Not offered on newsstands, *Adult Leadership* is available now to charter subscribers for $3 a year from the Adult Education Association of the United States of America, 743 N. Wabash Avenue, Chicago 11, Ill. Regular subscription, $4.

HEALTH, TOO, INTERESTS LABOR UNIONS

Action! For a Better Community is the manual of the National CIO Community Services Committee for the use of local union community services committees in developing health, welfare, and recreation programs for CIO families and the local community. Its chapter on "The Health of Your Community" opens with this article of faith: "We of the CIO follow the principle

that our members are community citizens and have a responsibility to support and participate in health and welfare services for the entire community."

The chapter might have been written for any other health agency or health council in that it suggests knowing the local community, what its hospital and medical care facilities are, whether there is a health department; in a nutshell, what the crying and immediate health and related needs are. It suggests joint action with other health agencies and health councils. Just blasting a bad situation or going off half-cocked on a program of its own are definitely not recommended. Because the CIO and the Junior League, it suggests, may differ on many matters, they may well be agreed on the need for day care centers for children of working mothers. "Teamwork in solving one problem is perhaps the best way of paving for teamwork in the solution of other problems."

Leo Perlis is national director of the Community Services Committee, 1776 Broadway, New York 19, N. Y.

THREE-QUARTERS IS A GOOD START

The 1950 census figures added 24 cities to Ohio where a municipality becomes a city when it reaches a population of 5,000. By the same token, it becomes a health jurisdiction which must make some provision for providing itself with health services.

Of these 24 cities, 18 have contracted to receive service on a full-time basis from the 8 county health departments in which they are located. Thus they continue to have the same service that they had before they acquired their new status.

Of the remaining six cities, two are in counties with only part-time health officers. They have contracted for this service rather than set up their own jurisdictions, thus leaving the way open for a unified full-time health department at some future date.

The remaining four new cities as of March 31, 1952, had not made agreements as to how their health services would be provided. Only one of these is in a county with a full-time health service.

ANOTHER NURSING EDUCATION AID

To the other helpful material in the field of tuberculosis nursing, the Joint Tuberculosis Nursing Advisory Service now adds a study of the *Tuberculosis Nursing Instruction in Universities for Public Health Nursing Students*. Besides including the complete questionnaire used in the study—valuable, incidentally, in appraising staff performance in this field—the study offers nine pertinent, definite and perfectly practicable "suggestions," or recommendations for improving instruction in this field based on eight equally definite conclusions drawn from the study. Administrators and teachers will want to examine these conclusions with care and measure their own practices in the light of the suggestions. Copies of the study are available without charge from JTNAS, 2 Park Avenue, New York 16, N. Y.

A TOWN STUDIES ITSELF

Study of the Health Facilities of the City of Waltham by the Health Committee, Waltham Community Council is a forthright, forward looking, pithy report with the flavor of Yankee independence. The nine-page report, backed up by 40 pages of brief, pertinent appendices, is the result of a self-study in Waltham, a city of 48,000 people in the Boston metropolitan area. Experts from the Harvard School of Public Health and the State Health Department assisted the citizens, but the people clearly made the decisions. They intend to have a health department geared to the needs of the next few years and a means of achieving the maximum teamwork among the many sources of public health services. Copies might be ob-

tained from Mrs. Joseph D. Holmes, chairman, Waltham Community Council, 657 Main St., Waltham, Mass.

EARLY IMMUNIZATION CAMPAIGN FILM

A Ticket to Health has been developed by the Colorado State Health Department to sell to parents the idea that children should be immunized against diphtheria, whooping cough, and tetanus, and vaccinated against smallpox and that this protection should be given early. It is a 35 mm. filmstrip and transcription, with attractive drawings and colors and interesting narration. Available on loan to Colorado agencies from Public Health Library, 1422 Grant St., Denver, Colo. Out-of-state inquiries to the State Health Department.

CHURCH AND MENTAL HYGIENE MEET

Several Veterans Administration hospitals are conducting conferences and clinics for the clergy in order to increase the latter's understanding of the mentally ill. This program is part of the larger nation-wide policy to acquaint the general public with the fact that many of the mentally ill can be rehabilitated through good medical care and the sympathetic understanding of their home communities. The clinics are conducted by the VA hospital chaplains and psychiatric staffs.

NEW TROPICAL MEDICINE JOURNALS

The American Journal of Tropical Medicine and Hygiene began publication as a bimonthly in January, 1952. Not really new, it is the continuation of two former journals, the *American Journal of Tropical Medicine* and the *Journal of the National Malaria Society*, the journals having been combined simultaneously with the merger of the two societies. (*A.J.P.H.* 42, 4:492 (Apr.), 1952.) L. W. Hackett, M.D., lecturer, University of California School of Public Health, is editor.

The first issue was a commemorative issue in honor of Charles Franklin Craig, M.D., who was editor of the *Journal of Tropical Medicine* from 1927 to 1946.

The Society has also created, beginning in February, *Tropical Medicine and Hygiene News*, a bimonthly bulletin, alternating with the *Journal* and made up of brief news items rather than technical articles. Its editor is Leon Jacobs, Ph.D., of the National Institutes of Health, Bethesda, Md.

WORTH ACQUIRING

Politics Is What You Make It, No. 181 of Public Affairs Pamphlets, has followed close upon No. 180, *Your Neighbor's Health Is Your Business*, with equal relevance. The title of the newest pamphlet might be paraphrased as Public Health Is What *You* Make It and be equally applicable to the earlier.

Politics Is What You Make It is written by Professor Joseph McLean of Princeton University, a member of the National Planning Committee of the American Veterans Committee, the nonpartisan veterans' organization that stresses civic responsibility. The point he is making about corruption in government, cost of living, taxes, the school system, or indeed, the health department, is that a citizen must be not merely a spectator but a participant in the politics of his town, state, and nation. And Dr. McLean reminds his readers that the word "idiot" in the original Greek meant a citizen who did not take part in voting. Public Affairs Committee, 22 East 38th St., New York 16, N. Y., 25¢. Reduction in quantity orders.

Records At Work is the first progress report of the Public Health Conference on Records and Statistics. This Conference, first organized in 1949, is sponsored jointly by the U. S. Public Health Service and Association of State and Territorial Health Officers. Its mem-

bers are the state registration executives, vital statisticians and public health statisticians from all the registration areas. In a foreword, Surgeon General Leonard A. Scheele defines its job "as ironing out any inconsistencies in the basic data and devising means to fill in the major gaps." He says further: "Its first progress report is not only an impressive record of accomplishment, but a lucid and candid statement of the problems still before us. Document No. 180, Public Health Service, Washington, D. C.

Lucky You is the 1952 book of street and highway accident data of the Travelers Insurance Companies, Hartford, Conn. The "Lucky You" is taken from a series of cartoons showing situations that make for accidents, but which, luckily, don't always result in accidents. Interspersed among the cartoons are the statistics of those who weren't lucky—37,000 killed and nearly 2 million injured in 1951, in each case a small but not negligible increase over 1950. This should be a useful item in a community traffic accident prevention program.

Services for Crippled Children is a brief Children's Bureau pamphlet in question and answer form that tells what services there are for crippled children in states and in the nation. It explains how federal aid to crippled children is administered through state and local agencies, shows 1951 federal grants to states for crippled children's services, and lists the agency in each state that administers such services. C. B. Folder No. 38.1952 Government Printing Office, Washington 25, D. C. 15¢.

Dental Health Education Material, 1952 is a listing, with brief descriptions, of the pamphlets, posters, films, and other educational material available from the American Dental Association. Audience for which designed and prices are included. American Dental Association, 222 E. Superior St., Chicago 11.

Growing Through Play and *New Play Experiences for Children* are published by the Columbia University Press. They are the results of an exploratory study of play as a factor in fostering healthy personality development of young children carried on at the Carolyn Zachry Institute in New York City. A grant from the New York State Mental Health Authority made possible the volume, *Understanding Children's Play* which summarized the findings of the study. This will be reviewed in a later issue of this *Journal*.

Additional material of further interest has now been published in the two booklets. *Growing Through Play* by Ruth Hartley describes the "experiences of Teddy and Bud." *New Play Experiences*, in which Lawrence K. Frank and Robert M. Goldenson share authorship with Miss Hartley, summarizes the efficacy of planned play groups, miniature life toys, and puppets. Columbia University Press, 2960 Broadway, New York 27, N. Y. 75¢ each.

ANNUAL REPORTS

Public Health is the second annual report of the Omaha-Douglas County (Neb.) Health Department. It is well put together and informative in an easy conversational style. Simple drawings illustrate the text. The health officer is Edwin D. Lyman, M.D., M.P.H.

California Public Health Report, July 1, 1950 to June 30, 1951, in addition to its technical excellence as a production, might well serve as a text in what public health is in a growing area. A chapter on "A Decade of Progress" tells how the various bureaus of the state health department grew up and what services they perform. Included is a good deal of information not often found in annual

reports. For example, analyzed county by county are the sources of budgeted funds for organized local health departments. Of nearly 17 million dollars budgeted more than three-quarters was from local funds. In the 52 departments local funds ranged from 35 to 95 per cent of the total. In the entire state only 4 per cent of funds were from federal sources, and only 5 departments received more than 10 per cent of funds from federal sources.

A unique state-local coöperation is described. By the Public Health Assistance Act of 1947, the State Conference of Local Health Officers was given the authority to set up standards for personnel and service that must be met by local health departments to qualify for state funds. This purely legal relationship has set up a pattern of state local coöperation that "provides means for continuous participation by local health officers in the determination of state policies and programs and for joint action to solve common problems."

Citizens in Action: Good Neighbors at Work is a 10-year report of the Washington Heights-Riverside District Health Committee in the City of New York. Its story is proof that "grass roots" action doesn't depend upon "tall grass," for this district is a city of more than half-a-million within the larger City of New York.

The Committee is a joint committee of the New York Tuberculosis and Health Association and the Health Department of the City of New York. Its home is the Department's district health center. This story of a community helping itself through people working together is interestingly told and has much that is relevant for other citizens, urban or rural, who wish to "see how the impossible can be accomplished." New York Tuberculosis and Health Association, 386 Fourth Ave., New York 16, N. Y.

50 Years of Health Progress in Cleveland is the story not only of 1950 in Cleveland's health, but of the first half of the 20th century. In those 50 years there have been 6 health commissioners with the present commissioner, Harold J. Knapp, M.D., serving longer than any others, more than 20 years. The report has many interesting historical facts that it is well to preserve. They are agreeably presented in good type with effective color charts and drawings. Cleveland would seem to be doing a big public health job for its very modest expenditure in 1950 of $1.39 per capita.

Action Against Heart Disease reports the activities of the American Heart Association for the year ending June 30, 1952. What the Association finds most gratifying in its own year's history is the growing participation of citizens everywhere in its program. Although only in its third year as a national voluntary health agency, it has 56 direct affiliates in 43 states, the District of Columbia, Puerto Rico, and Hawaii. The affiliates have more than 300 chapters under their jurisdiction.

The Career Investigator program and the professional education program, as well as the widespread health education program, are other items in which the Association takes pride. 1775 Broadway, New York 19, N. Y.

BOOKS AND REPORTS

All reviews are prepared on invitation. Unsolicited reviews cannot be accepted.

Community Organization and Agency Responsibility — *By Ray Johns and David F. DeMarche. New York: Association Press,* 1951. 274 pp. Price, $3.75.

"Oh wad some power the giftie gie us, to see oursels as others see us! It wad frae monie a blunder free us, an' foolish notion." Reference to the quotation from Burns aptly reflects the message which Ray Johns and David F. DeMarche convey in this book, written in easy-to-understand language. Based on their own rich background and observations and on the thinking and experience of over 500 workers in nearly 60 different cities, the authors present an extensive analysis of the community organization process and the role of direct-service social welfare agencies as responsible participants.

From the welter of social services—national, state and local, tax-supported and voluntary—in succinct fashion they trace community patterns of agency and interagency relationships. Barriers to effective coöperative relationships are explored, as well as the attitudes, skills and training of the community organization worker. They offer criteria and guiding principles which if followed could result in more effective and wholesome relationships.

As the authors have indicated, everyone concerned with any aspect of social welfare must be concerned with community planning and organization. It is everybody's business.

We commend this book to all for careful reading. By so doing they should have a better concept and understanding of the complex nature of our health and welfare services and, hopefully, a conviction of the values of and need for coöperative effort if we are to achieve our goal of maximum community well-being. JOSEPHINE J. ALBRECHT

Cardiolipin Antigens—*By Mary C. Pangborn, F. Maltaner, et al. World Health Organization Monograph Series No. 6. New York: Columbia University Press,* 1951. 63 pp. Price, $1.00.

This monograph, prepared by the Division of Laboratories and Research, New York State Department of Health, is a WHO project to collect and make available to health authorities and major laboratories technical information on the isolation, purification and standardization methods for cardiolipin and lecithin, and on the control of these products as a basis for the eventual establishment of international reference standards for the serodiagnosis of syphilis.

Chapters deal in precise detail with methods of preparation of reagents, methods for their chemical control, and methods for their use in conducting serological tests for syphilis by complement-fixation and by flocculation.

EDMUND K. KLINE

Die Leptospirose. Eine kurze Darstellung für Ärzte, Tierärzte und Gesundheitsbehörden — *By Wilhelm Rimpau. Monographien der "Medizinischen Klinik," No. 8. Munich-Berlin: Urban & Schwarzenberg,* 1950. 157 pp. Price, $2.38.

This small book may well serve as an introduction or as an aid to oversee the ever-increasing plethora of articles dealing with the leptospiral infections. It describes and illustrates the morphology and biology of the Leptospiras and details the methods of cultivation. The author still recommends (p. 21) the

seeding of 2–3 ml. of blood into 9 ml. of culture media, a procedure which yields relatively few positive blood cultures from icteric patients. The immunity reaction and the demonstration of the parasite through animal inoculation is reviewed in the conventional manner. Informative is the chapter on the global distribution and the host range of the Leptospiras. Valuable is the summary on the clinical aspects of the infection, with a useful discussion of the underlying pathologic physiology responsible for jaundice. The meningitic form is documented, case histories and the complications in form of iritis and iridocyclitis and relapses are presented in a lucid text. Under therapy, the author clearly states that for the present a specific curative agent is not known and therapy must by necessity be symptomatic.

To the public health worker the chapter on epidemiology gives good insight into the infection chains of this zoönosis which may create social and economic problems of considerable magnitude demanding specific control measures. The bibliography is comprehensive and well chosen. In every respect this is a useful monographic presentation of an infection which progressively gains in significance.

K. F. MEYER

Everyday Safety—*By William A. Evans. Chicago: Lyons and Carnahan,* 1952. 302 pp. Price, $1.32.

Safety consciousness must be integrated into our pattern of living if accidents are to cease being an important cause of disability and death. As the school has a major responsibility for building proper life patterns, Evans' text for teachers and students meets a definite need.

Everyday Safety is a comprehensive approach to the accident problem, covering all aspects in an easily readable style, replete with illustrative photographs and drawings, references, and suggestions for further study and discussion. The approach is positive, with emphasis upon "do's" rather than "don't's," and upon the advantages of safe living rather than the fear of injury. Special chapters are devoted to the specific accident problems in the home and in the school, on the farm and in the city, in recreation and on the job. The chapters on safety in industry and on driving a car are excellent, both for the older students ready for such activities and for the younger ones eagerly looking ahead to a job and a car.

There is little question that students studying this book chapter by chapter, with ample opportunity for discussion and outside reading, will gain an appreciative understanding of the hazards characteristic of our mode of daily living and of the need to protect ourselves from those hazards. The author wisely stresses that the use of this text does not eliminate the necessity of incorporating the subject of safety in the teaching of other subjects wherever applicable.

Among minor criticisms might be the brevity of the section on "baby sitting," in view of the great prevalence of this activity among high school girls. Also, a check test for home safety, similar to the excellent one given for driving, would seem a desirable addition. One startling thing is a preface page which lists a series of sensational, terrifying statements attributed to a character named "Carelessness." This approach is hardly consistent with the more positive mood of the book as a whole. However, none of these criticisms detracts from the worthiness of this effort.

I. J. BRIGHTMAN

Health Instruction Yearbook, 1951—*By Oliver E. Byrd. Stanford, Calif.: Stanford University Press,* 1952. 233 pp. Price, $3.50.

This is the 9th edition of the *Health Instruction Yearbook* and it covers a condensation of articles published in the

year ending June 30, 1951. Dr. Bernice Moss states in a foreword to this publication that it was prepared to help teachers and health workers become familiar with the newer knowledges regarding health that come from research and clinical reports. The larger part of the information was taken from the *American Journal of Public Health* and the *Journal of the American Medical Association.*

The units are well planned and the subject matter covers authoritative answers to questions that are discussed in newspapers and popular magazines. It will correct statements made by some enthusiastic but not well informed reporters of health subjects. There is an adequate bibliography to be found in the back of the book. This reader wishes that more consideration could have been given in some of the reports to the lack of basic knowledge possessed by a large number of teachers regarding the maintenance of health. This does not prevent it from being a very useful book to many. MARY P. CONNOLLY

Modern Dietary Treatment — *By Margery Abrahams and Elsie M. Widdowson (3rd ed.). London: Bailliere, Tindall & Cox,* 1951. 355 pp. Price, $4.50.

This is a new edition of a standard textbook on dietetics, which was first published in 1937 and which has been widely used by dietitians in England. Only a very small part of the book (45 pages) is given over to a discussion of the basic principles of nutrition and the essential nutrients. Over 150 pages are used for a discussion of special diets and a tabulation of special diets. A large number of recipes are included. The tables have been brought up to date, with a complete table on the chemical composition of foods. It is interesting that all the values are given in grams or milligrams per ounce of food, while in this country 100 grams of food is the unit most widely used. The amino acid composition of foods is also included. The Recommended Dietary Allowances of the National Research Council are used in this book, although most English workers criticize these values as being too high. C. A. ELVEHJEM

The Other Child—*By Richard S. Lewis, with Alfred A. Strauss and Laura Lehtinen. New York: Grune & Stratton,* 1951. 116 pp. Price, $2.50.

This book presents a vivid and dramatic picture of the patterns of functioning of a most complex deviant child—the brain-injured child—regarded as eccentric by the kinder members of the community and ostracized by the less kind, who note the odd social and intellectual behavior of an apparently physically normal child. Although the author has written for laymen and parents, no one who comes into professional contact with children can afford to overlook this book.

The book is divided into three main sections: psychopathology, management, and education. The author's experiences, both as a newspaperman and as a parent of a brain-injured child, have helped him to present a sharp and clear, although somewhat overdramatized, picture of the complicated mental processes of such children and the critical problems they present to their family and community. He has done this with the assistance of Dr. Strauss and Miss Lehtinen, pioneers in this field.

There is little or no community planning for brain-injured children, in contrast to cerebral-palsied children, whose physical handicaps are more noticeable but whose mental handicaps are less serious. The author feels that the persistent behavior difficulties of brain-injured children are incorrectly dealt with from the viewpoint of emotional disturbance or intellectual retardation.

In order to train these children special techniques, painstakingly applied, must

be used. Parents and teachers must understand the bases for the child's problems, the author feels, if they are to be successful. They must learn that ". . . he cannot control his organic unstability any more than a person who trips and loses his balance can be commanded to stop falling" (p. 81). Education is not expected to remove the brain-injured child's perceptual and conceptual difficulties, but to equip him with the means for coping with his difficulties in making an adequate adjustment to reality.

This book performs an excellent service in that it focuses attention on the problems of brain-injured children. It raises many questions, however, which cannot be answered without further research, and points up the need for such research.

ZELDA S. KLAPPER

Toward Manhood—*By Herman N. Bundesen. New York: Lippincott*, 1951. 175 pp. Price, $2.95.

With this volume, Chicago's well known Health Commissioner adds another book to those "designed to give boys understanding of the facts and implications of sex." It is marred by language often too technical or advanced for a youthful reader. Perhaps it is too much to expect the highly educated physician not to use specialized medical terms and other words which make difficult reading for a teen-ager.

The book is marred also by the perhaps unwitting use of phrases reminiscent of assumptions and inferences regarding human sexuality which it seems the author would disclaim and which are far from what are now considered desirable educationally. Illustrating this are passages speaking of "the lower nature of the male," the "animal nature of men," and the "so-called need of men to express their lower natures." This characterization of sex as inherently low certainly does not make for the healthy-minded attitudes which are so indispensably a part of sound sex education.

The book strongly supports socially sound sex behavior with many facts and much commonsense appeal to youth. But it could so often have been approached more helpfully and buttressed so much more completely and satisfactorily that this reviewer regretfully feels the author has not made the most of his opportunity to serve the teen-agers for whom he writes.

ROY E. DICKERSON

Accepted Dental Remedies. *Chicago: American Dental Association*, 1952. 211 pp. Price, $1.50.

Many persons in public health who for years have depended on a volume called *New and Nonofficial Remedies* published by the American Medical Association will not have seen the corresponding volume of *Accepted Dental Remedies* published by the American Dental Association Council on Dental Therapeutics. This is the 17th edition of a volume "compiled to promote rational therapeutics in dentistry."

Designed to serve as a handbook of dental therapeutics, the book lists products marketed in the United States which are acceptable to the Council on Dental Therapeutics. It also includes provisions for acceptance of products, some information on standardizing agencies and on prescription writing. The volume should be available to those who purchase supplies for dental services.

REGINALD M. ATWATER

Phase Microscopy—*By Alva H. Bennett, Harold Osterberg, et al. New York: John Wiley*, 1951. 320 pp. Price, $7.50.

A light wave passing directly through an object of a greater refractive index than the surround will be slightly retarded, i.e., be in a different phase than the unretarded ray. If the object is

placed on the stage of a compound microscope and a "diffraction plate," which will alter the amplitude ratio and increase the phase differences between two sets of light rays, is placed at the back focal plane of the objective, it becomes possible to emphasize slight phase differences so as to show contrasting images. By using various diffraction plates or an adjustable plate, the degree of contrast can be enhanced, retarded, or even reversed.

The panel of experts who have compiled this book describe in detail the history, theory, instrumentation, technics, and application in science and industry of this new form of microscopy. An appendix treats of the mathematical theories involved.

In the fields of biology and medicine the application of phase microscopy to the examination of living unstained material permits observation of structural details and changes which cannot be demonstrated by other methods.

EDMUND K. KLINE

The Practice of Marriage Counseling—*By Emily Hartshorne Mudd. New York: Association Press,* 1951. 229 pp. Price, $4.50.

This comprehensive presentation of the philosophy, methods and procedures of marriage counseling has resulted from the author's 14 years of experience with the Philadelphia Marriage Council. Mrs. Mudd shows how and why marriage counseling developed in America, its relationship to certain events in our culture, such as the economic depression, world wars and the resulting strains in family life, complex conditions of accelerated social change, and the disturbances to marriage and family life.

Most marriage counseling, the author notes, is very informal and is carried on naturally by relatives, friends, physicians, clergymen, or teachers. To these Mrs. Mudd gives very practical suggestions, such as how to meet the questions raised and how to help the individual, through acceptance and understanding of his ideas and feelings, and through the development of interviewing skills, which help him to express his problems and, when necessary, to seek and accept more expert guidance.

The author studied 2,500 consecutive cases of the Marriage Council of Philadelphia during the years 1936–1949 to determine characteristics of this group. It was found that the clients were "for the most part younger, more educated, more apt to be white women and members of a Protestant church, than the general population of Philadelphia and the United States. They were a little more apt to be married than single, and if married, to have been married for about the same length of time as the general population of Philadelphia."

The process of counseling used by the Council is described vividly, and such subjects as procedures for client application; intake policy, first interviews, special technics for premarital interviews, working with partners in marriage, joint interviews, time limits, fees, referral, etc., are discussed. An interesting last chapter on the impact of mobilization and war emphasizes the effect of war on the group of clients requesting service from the Council. The potentialities of counseling in helping to strengthen family life, contributing to happy and constructive relationships between husband and wife, parents and children, are seen as one means of enabling men and women to use their inner strengths in such a way that more permanent and less prejudiced human relations will result.

The book contains a chapter with several case histories vividly summarized and the results of counseling services evaluated. There is at the end an excellent full bibliography covering all aspects of marriage counseling, as well as an appendix, which lists the national and

local organizations interested in marriage counseling and describes the functioning of these services.

This volume is a clear presentation of a well developed and complete program which includes direct counseling, work with and through community agencies, teaching of students in marriage counseling, and research. It is of value to all persons concerned with the problems of the family today. For public health workers its emphasis on prevention will be especially well accepted.

ELIZABETH P. RICE

The Scientific Paper. How To Prepare it, How To Write it—*By Sam F. Trelease (2nd ed.). Baltimore: Williams & Wilkins*, 1951. xii + 163 pp. Price, $2.50.

Scientific workers and students are faced from time to time with the necessity of preparing papers for publication. For many this is an arduous task. The manual under review is intended to meet the practical needs of scientific and technical workers in presenting their material most effectively. It was first published in 1947 and is now appearing in a second edition, indicating that it has been found useful.

The present edition has been expanded and thoroughly revised. The subject matter is organized in seven chapters dealing respectively with the research problem, writing the paper, good form and usage, tables, illustrations, prepublication review, and proofreading. No attempt has been made to include rules of grammar, though a few are mentioned as reminders. All in all, this is a handy manual and will undoubtedly be helpful to its many users. There is a bibliography and an index. In addition, boldfaced headings make it easier to locate specific topics. GEORGE ROSEN

Measurement and Evaluation in Physical Health and Recreation Education—*By Leonard A. Larson and Rachael D. Yocom. St. Louis: Mosby*, 1951. 507 pp. Price, $7.50.

The graphic portrayal of "statistical tools of measurement and evaluation" is the unique feature of this book, as is the pictorial manner in which many of the tests are presented.

The book represents a complete resumé of the literature in the field and is well documented with reference material.

The editing of the book could be improved upon and in various places it could be more readable.

Measurement and Evaluation in Physical Health and Recreation Education is a little lengthy and formidable for the beginning student in a measurements course, but would serve the advanced student well. The price might easily be a deterring factor in its wide acceptance as a text. C. ETTA WALTERS

Preface to Eugenics—*By Frederick Osborn (Rev. ed.). New York: Harper & Brothers*, 1952. 320 pp. Price, $4.00.

What good fortune it is for us that so intricate a subject, filled with potential controversy, has been presented by so wise, so mature, so gentle and endearing an author who offers us a hopeful broad philosophy based on sciences we can understand if we study the record and follow his most inspiring leadership.

This book is immediately contemporary and timely in facts, appropriate for the urgent demands of a society about the world as well as close at home, struggling between the paths of revolution and evolution.

The structure and design of the nine chapters satisfy. The details have been sorted and arranged with care. The array of information, while formidable because of the general reader's unfamiliarity with much of it, bears every mark of critical selection and basic authenticity. Frederick Osborn brings to his chosen theme a wealth of enthusiasm which illuminates and charms by

his well chosen words, phrases, and broad conceptions.

> Of all the heritage of the past, of which we are the trustees, the stream of life itself is the most precious and the most irreplaceable. . . .
>
> Eugenic proposals are the common-sense application of existing knowledge. . . .
>
> The eugenics ideal recognizes that each human being is by his heredity unique. . . .
>
> Democracy is the necessary safeguard of eugenics. . . .
>
> The old system of survival, or selection by deaths, operated successfully for about a billion years. . . .
>
> The modern eugenics movement is in many ways conservative. It proceeds cautiously in the development of theory in step with the progress of scientific research. . . .

Thus do we glimpse the ideas expressed in among the amply supporting facts.

The book is well built, the letterpress excellent and remarkably free from any printing errors. The references are given in footnotes and are good.

The audience addressed spans many professions and occupations, but will include physicians in private and public service and nurses, social workers, and teachers. It can be highly recommended in all respects. HAVEN EMERSON

Report of Proceedings of a Conference on Graduate Nurse Education, April 30–May 4, 1951—*Prepared by the National Organization for Public Health Nursing. New York: National Organization for Public Health Nursing,* 2 Park Ave., 1951. 30 pp. Price, $1.25.

This report is a clear, concise presentation of the work of the 53 representatives of universities and local, state, and national agencies who participated in the five day conference on graduate education for public health nurses. Public health administrators, educators, and nurses who are concerned with the development or selection of graduate programs in public health nursing will find this report a valuable guide.

Programs of study designed to prepare graduate nurses for beginning positions in public health nursing have been accredited since 1921. Much less attention has been given to the evaluation of the so-called advanced programs. This conference was the result of requests from students, employers, and universities for help in clarifying the confusion about graduate programs. The group considered general philosophy, objectives, principles, and criteria for graduate education in public health nursing and the competencies needed by supervisors, administrators, teachers, consultants, research workers, and advanced practitioners in this field. They recognized that graduate education in public health nursing must be considered in relation to undergraduate public health nursing education and to graduate education in both nursing and public health. No single educational pattern was recommended, but the desirability of variation, experimentation, and flexibility was emphasized. A program providing both a broad general background and specific content was considered essential.

The report presents the thinking of the Conference on such basic problems as recruitment and selection of students, admission requirements, types of programs needed, values and problems in the interdisciplinary approach, methods of evaluating programs, resources needed by a university offering graduate work, costs, and the need for regional distribution of programs.

ELLA E. MCNEIL

BOOKS RECEIVED

Listing in this column acknowledges the receipt of books and our appreciation to the senders. Space and the interests of readers will permit review of some, but not all, of the books listed.

CEREBRAL PALSY INSTITUTE PROCEEDINGS NOVEMBER 1950. Sponsored by the Coordinating Council for Cerebral Palsy in New York City, Inc., Marguerite Abbott, Executive Director. New York: Association for the Aid of Crippled Children, Inc., 1952. 136 pp. Price, $1.50.

THE CHILD AND HIS PLAY. Hazel Kepler. New York: Funk & Wagnalls, 1952. 305 pp. Price, $3.75.

COLD INJURY, CONFERENCE ON TRANSACTIONS OF THE FIRST CONFERENCE, JUNE 4–5, 1951. Edited by M. Irene Ferrer. New York: Josiah Macy, Jr. Foundation, 1952. 235 pp. Price, $3.25.

COMMUNITY OF THE FUTURE. Fr. Vinding Kruse. New York: Philosophical Library, 1952. 828 pp. Price, $12.00.

COWDRY'S PROBLEMS OF AGING. Edited by A. I. Lansing (3rd ed.) Baltimore: Williams & Wilkins, 1952. 1952 pp. Price, $15.00.

CYBERNETICS, CONFERENCE ON. Transactions of the Eighth Conference March 15–16, 1951. Edited by Heinz Von Foerster. New York: Josiah Macy, Jr. Foundation, 1952. 240 pp. Price, $4.00.

DIRECTORY OF HEALTH, WELFARE, AND RECREATIONAL AGENCIES SERVING MICHIGAN. Lansing, Mich.: Michigan Welfare League, 1952. 39 pp. Price, $.50.

ELEMENTARY MEDICAL STATISTICS. The Principals of Quantitative Medicine. Donald Mainland. Philadelphia: Saunders, 1952. 327 pp. Price, $5.00.

FIGHT AGAINST TUBERCULOSIS. Francis Marion Pottenger. New York: Henry Schuman, 1952. 276 pp. Price, $4.00.

GEOGRAPHY OF HUNGER. Josué de Castro. Boston: Little, Brown, 1952. 326 pp. Price, $4.50.

LABORATORY MANUAL FOR GENERAL BACTERIOLOGY. George L. Peltier, Carl E. Georgi, and Lawrence F. Lindgren (4th ed.). New York: John Wiley, 1952. 293 pp. Price, $3.50.

Medical Research Council Reports—London: Her Majesty's Stationery Office.

CONTRIBUTION TO THE STUDY OF THE HUMAN FACTOR IN THE CAUSATION OF ACCIDENTS. E. M. Newbold. 76 pp. 1926. Price, 7s, 6d net.

FATIGUE AND BOREDOM IN REPETITIVE WORK. S. Wyatt and J. N. Langdon. 1937. 84 pp. Price, 6s, 6d net.

NERVOUS TEMPERAMENT. Millais Culpin and May Smith. 1930. 52 pp. Price, 4s, 6d net.

MENTAL DISORDERS. Diagnostic and Statistical Manual. Prepared by the Committee on Nomenclature and Statistics of the American Psychiatric Association. Washington, D. C.: American Psychiatric Association, 1952. 130 pp. Price, $1.50.

PENNSYLVANIA PIONEERS AGAINST TUBERCULOSIS. Esther Gaskins Price. New York: National Tuberculosis Association, 1952. 287 pp. Price, $5.00.

PHYSIOLOGICAL CHANGES IN PLASMA PROTEINS CHARACTERISTIC OF HUMAN REPRODUCTION. Icie G. Macy and Harold C. Mack. Detroit, Mich.: Children's Fund of Michigan, 1952. 170 pp. Free to workers in this field.

REPORT OF PROCEEDINGS OF CONFERENCE ON GRADUATE NURSE EDUCATION APRIL 30–MAY 4, 1951. New York: National Organization for Public Health Nursing. 1951. 30 pp. Price, $1.50.

STANDARD VALUES IN BLOOD. Committee on the Handbook of Biological Data. Edited by Errett C. Albritton. Dayton, Ohio: U. S. Air Force Wright Air Development Center, Wright-Patterson Air Force Base, 1951. 199 pp.

TASK FORCE ON THE HANDICAPPED. Report to the Chairman Manpower Policy Committee. Office of the Defense Mobilization. Washington, D. C.: Office of Defense Mobilization, 1952. 88 pp.

TEXTBOOK AND GUIDE TO THE STANDARD NOMENCLATURE OF DISEASES AND OPERATIONS. Edward T. Thompson and Adaline C. Hayden. Chicago: Physicians' Record Company, 1952. 614 pp. Price, $8.00.

USE OF HEALTH RESOURCES BY RURAL PEOPLE IN TWO CENTRAL NEW YORK COUNTIES, 1949. Olaf F. Larson and Donald G. Hay. Ithaca, N. Y.: New York State College of Agriculture, Cornell University, 1951. 45 pp.

VITAL STATISTICS OF THE UNITED STATES 1949. Washington, D. C.: U. S. Gov. Ptg. Office, 1951. Part I, 229 pp. Price, $2.50. Part II, 710 pp. Price, $4.50.

WATER. A Study of its Properties, its Constitution, its Circulation on the Earth, and its Utilization by Man. Sir Cyril S. Fox. New York: Philosophical Library, 1952. 143 pp. Price, $8.75.

WIDE NEIGHBORHOODS. A Story of the Frontier

Nursing Service. Mary Breckinridge. New York: Harper, 1952. 366 pp. Price, $4.00.

WORKING PROGRAMS IN MENTAL HOSPITALS. Proceedings of the Third Mental Hospital Institute. Washington, D. C.: American Psychiatric Association, 1952. 202 pp. Price, $2.50.

ZOOLOGY. Alfred M. Elliott. New York: Appleton-Century-Crofts, 1952. 702 pp. Price, $6.00.

A SELECTED PUBLIC HEALTH BIBLIOGRAPHY WITH ANNOTATIONS

RAYMOND S. PATTERSON, PH.D.

Thought for the Day—"If the number of deaths on the day of birth were to continue for the first 100 days no infant would survive beyond that time." (But we are making progress with neonatal life-saving, the report adds.)

ANON. The Hazardous First Month of Life. *Statist. Bull. Metrop. Life Insur. Co.* 33, 2:1 (Feb.), 1952.

Mechanical Dishwashing—How to wash dishes by the ton and get them clean.

ANDERSON, D. E. Supervising Your Mechanized Dishwashing Pays Dividends. *Modern San.* 4, 4:28 (Apr.), 1952.

TB and Crowding—Do you think we have housing troubles? Read this: Britain had 12 million houses before the war (a third built prior to 1860). Nearly half-a-million were rendered uninhabitable by the war and since then 2½ million new people have been added to the population. Needed, 4 million new housing units; built, 1¼ millions.

CLARK, W. G., *et al.* Housing and Tuberculosis. *Pub. Health* 65, 7:113 (Apr.), 1952.

Thoroughness Pays Off—Cancer detection clinics are justified for their educational and clinical research values—any services offered patients being in the nature of an additional reward rather than the primary purpose: so conclude these researchers.

CLIFFTON, E. E., *et al.* Evaluation of a Cancer Detection Clinic. *J.A.M.A.* 148, 14: 1169 (Apr. 5), 1952.

A Challenge—This you should read if only as a test of your absorptive powers. It is a clearly presented discussion in a field in which most of us should have a fair idea of what the various words mean; yet, it will take a lot of comprehending to follow the argument to its useful conclusion.

DAVIS, B. D. Bacterial Genetics and Drug Resistance. *Pub. Health Rep.* 67, 4:376 (Apr.), 1952.

New Ground Broken—Can epidemiologic methods be applied to mental disease? How can mass measurement be adapted to the needs of this field? What practical additions to preventive or control measures may be expected? These questions are answered through a study of suicide as a mass phenomenon.

GORDON, J. E., *et al.* The Biological and Social Sciences in an Epidemiology of Mental Disorder. *Am. J. M. Sc.* 223, 3:316 (Mar.), 1952.

Not Financially Justifiable—Because of the expense involved and the few cases discovered, cytologic screening

is not feasible for a health department to offer publicly to women without gynecologic symptoms. This, of course, does not imply any question of the diagnostic value of the Papanicolaou test.

LOMBARD, H. L., *et al.* Use of the Vaginal Smear as a Screening Test. *New England J. Med.* 246, 14:523 (Apr. 3), 1952.

Ornithosis Troubles—This may be over my head, but it seems that it is possible for a patient to have developed a positive granuloma-venereum reaction and be currently sick with a virus pneumonia. In this case he might give a serum reaction suggestive of psittacosis. Suspected cases of ornithosis among poultry dressers had better be double-checked because that disease is rarely a hazard to such workers.

MANDEL, A., and JORDAN, W. S. Ornithosis (Psittacosis) in Chicken and Poultry Workers. *Am. J. Hyg.* 55, 2:230 (Mar.), 1952.

The Teacher Cried—Chances are good that half the readers of this *Journal*, over age 40, will have had no contact whatever with role playing as a teaching device. Those who haven't, owe themselves the novel and vicarious experience to be gained by reading this transcript.

MANDELL, S. Role Taking and Discussion In an Inservice Education Program in Mental Hygiene. *Pub. Health Nursing* 44, 4:203 (Apr.), 1952.

Much Needed—Here are the recommendations of a select committee outlining inservice training, internship training, and formal education for the various grades of public health engineers and sanitarians.

O'BRIEN, J. F., and AMOS, F. B. The New York State Training Program for Sanitation Personnel. *Modern San.* 4, 4:17 (Apr.), 1952.

Too Bad!—First of two papers is a report that triethylene glycol vapor causes a marked reduction of air-borne bacteria. Then follows the finding that the vapor did no good in preventing epidemics of flu, and other acute respiratory infections.

PERSONNEL OF U. S. N. MEDICAL RESEARCH UNIT NO. 4. The Use of Triethylene Glycol Vapor for Control of Acute Respiratory Diseases in Navy Recruits. *Am. J. Hyg.* 55, 2:203 (Mar.), 1952.

Hunting For Answers Still—Described here is the work of a coördinating committee appointed by heads of the state departments of health, education, and mental health and six universities to improve school health practice. Seems as if we've been trying to settle on the surest ways to child health for some time now.

PETERSON, P. Q. Coöperation of Departments of Education and Health in the Administration of School Health Programs. *Pub. Health Nursing* 44, 4:173 (Apr.), 1952.

Isonicotinic Acid Derivatives—Though you will find a complete and authentic presentation of the status of the new (tuberculosis) therapeutic measures in the April *Bulletin* of the National Tuberculosis Association, you may want to get the news direct. In that case you can turn to this preliminary report straight from Sea View.

ROBITZEK, E. H., and SELIKOFF, I. J. Hydrazine Derivatives of Isonicotinic Acid (Rimifon, Marsilid) in the Treatment of Active Progressive Caseous-Pneumonic Tuberculosis. *Am. Rev. Tuberc.* 65, 4:402 (Apr.), 1952.

Industrial Cancer—From the universities, industries, insurance companies and the health services, a distinguished group was recruited to study environmental factors in cancer. The proceedings fill one whole issue of the AMA's *Archives*. All this item can do is to call the papers loudly to your attention.

SMITH, W. E., *et al.* Purpose and Program of the Cancer Prevention Committee (and

fifteen related papers). *Arch. Ind. Hyg. & Occup. Med.* 5, 3:187 (Mar.), 1952.

Fighting Chance—In New York City there are born about 13 thousand preemies each year. The city is constructing "premature centers" for the better pediatric and nursing care of these ill-starred infants. Improvement of obstetric practices is not neglected in the new plan.

WALLACE, H. M., *et al.* Report of Two Years' Experience in the Transportation of Premature Infants in New York City. *Pediatrics* 9, 4:439 (Apr.), 1952.

World Ill-Health—Something of the immensity, if not the hopelessness, of the world's sanitary and social needs are spread before you in this revealing symposium in which far-ranging members of our Association participated.

WINSLOW, C.-E. A., *et al.* Meeting Problems of World Health. *Pub. Health Rep.* 67, 4:317 (Apr.), 1952.

If additional information is desired regarding the articles listed in this Bibliography, please communicate directly with the publications in which they appeared; the addresses are furnished for your convenience.

Am. J. Hyg. (American Journal of Hygiene)
615 N. Wolfe St., Baltimore 5, Md.
Am. J. M. Sc. (American Journal of the Medical Sciences)
600 Washington Sq., Philadelphia 6, Pa.
Am. Rev. Tuberc. (American Review of Tuberculosis), National Tuberculosis Association,
1790 Broadway, New York 19, N. Y.
Arch. Ind. Hyg. & Occup. Med. (Archives of Industrial Hygiene and Occupational Medicine),
American Medical Association,
535 N. Dearborn St., Chicago 10, Ill.
J.A.M.A. (Journal of the American Medical Association)
535 N. Dearborn St., Chicago 10, Ill.
Modern San. (Modern Sanitation) Editorial Offices,
855 Avenue of the Americas, New York 1, N. Y.
New England J. Med. (New England Journal of Medicine), Massachusetts Medical Society
8 The Fenway, Boston 15, Mass.
Pediatrics, Journal of the American Academy of Pediatrics,
636 Church St., Evanston, Ill.
Pub. Health (Public Health), Society of Medical Officers of Health,
Tavistock House, S. Tavistock Sq., London, W.C. 1, Eng.
Pub. Health Nursing (Public Health Nursing)
2 Park Ave., New York 16, N. Y.
Pub. Health Rep. (Public Health Reports), Superintendent of Documents,
Gov. Ptg. Office, Washington, D. C.
Statist. Bull. Metrop. Life Insur. Co. (Statistical Bulletin Metropolitan Life Insurance Co.),
Metropolitan Life Insurance Co.,
1 Madison Ave., New York 10, N. Y.

ASSOCIATION NEWS

EIGHTIETH ANNUAL MEETING
AMERICAN PUBLIC HEALTH ASSOCIATION
CLEVELAND, OHIO, OCTOBER 20–24, 1952

FELLOWSHIP IN THE AMERICAN PUBLIC HEALTH ASSOCIATION

The grade of Fellowship was established in the American Public Health Association in 1922. Professional workers in public health are eligible for election as Fellows under certain conditions and as an indication that they have achieved a recognized professional standing. As of January 1, 1952, the total membership of the Association was 12,555, including 2,657 Fellows, or 21 per cent of the total.

Questions are frequently asked regarding the requirements for Fellowship and the following statement outlines the provisions of the By-laws governing qualification and election.

Persons who have been members of the Association for at least two years and who have reached their 30th birthday are eligible to apply if, in their opinion, they meet the conditions of one or more of the six clauses in the By-laws defining "an established professional standing." These six possible approaches are as follows:

a. A person who has rendered acceptable service for two or more years in a responsible public health position and who has been awarded in course a degree of Doctor of Public Health, Doctor of Science in Public Health, Doctor of Philosophy in Public Health, Doctor of Medicine with at least one year of graduate study in public health in a university, Master of Public Health, Diploma in Public Health, or other equivalent degrees, according to standards approved by the Executive Board of the American Public Health Association.

b. A person who has been awarded in course an academic or professional degree involving training in public health and who has been regularly engaged in health work for at least five years, having rendered meritorious service as a health officer or in responsible charge of work in either a public or private health agency.

c. A person who has done notable original work in public health or preventive medicine of a character to give him a recognized standing.

d. A person regularly engaged in health work for at least five years, who has given evidence of special proficiency, who has attained a recognized standing.

e. A teacher of public health or one of its constituent sciences who has attained distinction as an expounder of the principles of public health or its constituent sciences. Such a teacher shall have had at least five years' experience as a teacher of public health subjects. Any years of experience as defined in paragraphs "b" and "d" that the applicant may have had shall be considered the equivalent of the same number of years' experience as a "teacher."

f. A person not covered by the above, who has made substantial contributions to public health work in his chosen branch, who has attained a recognized professional standing.

Persons wishing to apply should request a Fellowship application blank from the American Public Health Association Membership Department, 1790 Broadway, New York 19, N. Y. Applications are accepted up to August 1 each year for consideration by the Gov-

erning Council at the fall meeting. It is important to make clear that members themselves should take the initiative in submitting such applications. Neither the Sections nor the A.P.H.A. administrative staff are authorized to solicit applications. This means that, although over 3,000 persons have been duly recognized with this grade of affiliation since 1922, there are other persons well qualified who have never initiated the process of applying for Fellowship. It should be clear that members should not await action by others if they wish to attain Fellowship. It is necessary and proper for them to take the first step.

An application for Fellowship requires sponsorship by two Fellows of the Section with which the applicant desires to be affiliated. These personal signatures are to be obtained by the applicant before submitting the completed application. The A.P.H.A. office will assist, on request, in determining the Section with which prospective sponsors are affiliated. Applications from persons not wishing to be identified with a particular Section and requesting unaffiliated Fellowship may be sponsored by any two Fellows of the Association.

When properly sponsored and otherwise completed, the application is sent to the A.P.H.A. office, after which the list of persons applying is published in the *American Journal of Public Health*, usually in the September issue, but in any case not less than 15 days before the date for the Annual Meeting. An established routine is followed for review by the Section Councils (unaffiliated applications are reviewed by the Executive Board) and by the Committee on Eligibility. This Standing Committee of the Association is made up of one Fellow from each of the 13 Sections, plus a Chairman elected by the Executive Board. This group is under instructions from the Governing Council to examine each application in accordance with the provisions of the clause of the By-laws chosen by the applicant, and to apply the criteria with precision in each case. Final election is by the Governing Council at the second meeting at each annual session.

The privileges of Fellowship include eligibility to serve as an officer of the Association or one of the Sections, Chairman of an Association or Section Committee (over one hundred in number), a member of one of the four Standing Committees, a member of the Governing Council or Executive Board, and the right to vote on amendments to the Constitution. Some Civil Service and merit system records depend upon Fellowship in the American Public Health Association as an achievement deserving recognition in applicants.

The dues of Fellows are $15.00 annually, and include a subscription to the *American Journal of Public Health* and other services to which members are eligible. Life membership is available at $200, covering all future annual dues.

Applications for Fellowship to be considered at the 80th Annual Meeting in Cleveland, Ohio, October 20–24, should be filed with the Association as soon as they are completed, and in any case not later than August 1. For further information, address the Membership Department, American Public Health Association.

RECRUITMENT, SALARIES CONCERN CPE

The Committee on Professional Education met on April 1 in New York City with every member except one in attendance. Dr. Leroy E. Burney, the chairman of the Committee, presided and introduced the three new members: Vivian Drenckhahn of the Health Education Section, Professor Herbert M. Bosch of the University of Minnesota School of Public Health, and Dr. E. G. McGavran, dean of the University of North Carolina School of Public Health.

Among the problems discussed was the accreditation of public health residency training programs and the accreditation of schools of public health. Dr. Emerson, consultant for the former program, reported that in the 12 states with accredited local areas for such training there was a capacity for 60 trainees. Currently 16 physicians are in training. In addition, several states have inquiries from a number of candidates.

It was recommended that a simple annual report form be prepared by each of the states with training areas. Among the uses of such a report would be the determination as to whether the training area needed reinvestigation. As a general principle it was suggested that in the early years of the program those areas with trainees should probably be revisited annually.

On the basis of Dr. Winslow's report, the Committee voted to recommend to the Executive Board reaccreditation of the 11 schools of public health. Dr. Winslow considered one of the strengths of the schools that they differ widely in program and emphasis. For example, the new School of Public Health at Pittsburgh does not plan to train health educators and is planning a particularly strong occupational hygiene department.

The APHA recruitment program of public health workers was discussed in the framework of previous inability to secure funds for such a program. It was emphasized strongly that, basic to such a recruitment program, was an analysis of the public health job, particularly that of the health officer, in terms that would inspire imaginative young persons to enter the field. "The diagnosis and treatment of the body politic" was one definition suggested as a starting point. In analyzing the public health job the possibilities of some of the emerging areas of public health should be stressed rather than those nearly done. The relation also of departments of preventive medicine and public health in medical schools to the recruitment problem was discussed. A national conference on recruitment was suggested, with a subcommittee authorized to explore its possibilities.

On the basis of a resolution presented by the Public Health Education Section, a subcommittee was authorized to explore, with possible recommendations, the question of the social sciences in the education of public health workers. Specifically requested by the Section was the determination of what kind and how much instruction in the social sciences and their relation to health education can best be included in the professional training of all public health personnel.

Dr. Willard reported for the Salary Study subcommittee that a fourth study of local public health salaries has been undertaken. It will include local health units serving populations of more than 250,000, in addition to units heretofore studied, namely, those with a population range from 50,000 to 250,000. Also contemplated is an additional analysis of salary data for some of the largest cities in the United States. Some opinion was expressed that present salary figures, particularly in terms of averages, were not very useful. The local appointing bodies want to know what they must pay in order to get a certain type of worker. For this purpose, information on the actual salaries at which positions are being filled in other areas would be useful; also information on salaries

offered for positions that remain unfilled over a considerable period. Information as to the extent to which positions are being filled with qualified or with unqualified personnel at the salaries offered would also be useful.

A CENTENNIAL OF ENGINEERING

The American Public Health Association, through the Engineering Section, will join with the American Society of Civil Engineers and other engineering societies in observing the Centennial of Engineering—1952. The Centennial marks the 100th anniversary of the American Society of Civil Engineers. An extensive program has been arranged for meetings to be held in Chicago, September 3–13. In addition to a program of technical discussions, extensive exhibits will present to the public the story of a century of engineered progress.

The Engineering Section of the Association will join with the Sanitary Engineering Division, ASCE, in presenting three joint sessions: two on September 8 and one on the morning of September 9. A varied program has been prepared for each session, with representatives from both organizations participating. The full program will be published in the August issue of *Civil Engineering*.

REVISION OF STATEMENT ON POLIO AND IMMUNIZATIONS

The Committee on Research and Standards, in the light of additional information and further studies, has revised the statement on poliomyelitis and immunizations that was adopted by the Committee and published in the June, 1951, *American Journal of Public Health*, page 746. The revised statement adopted by the Committee is as follows:

> Scientific evidence indicates that persons who develop poliomyelitis within a month after receipt of an injection of an antigen, or possibly of some other material, show slightly increased frequency of paralysis in the extremity into which the injection has been given. It is therefore recommended that in the face of an abnormal prevalence of poliomyelitis in a given locality, immunizing injections be postponed until after the subsidence of the outbreak. On the other hand, it must be recognized that if there is concurrent prevalence of diphtheria, whooping cough, typhoid fever, smallpox, or other infectious diseases subject to control by immunization, the risk of these latter diseases to the nonimmunized far outweighs the slight risk of poliomyelitis attendant upon the injection. Under such circumstances the immunization program should be continued. Under no circumstances should injections that are therapeutically indicated be withheld. Furthermore, it should be noted that children under six months of age and adults have such a low incidence of paralytic poliomyelitis that the risk of precipitating paralysis by inoculation in these age groups is almost negligible.

As with the original statement of the Committee on Research and Standards, the revision was prepared by the *ad hoc* committee appointed to study the subject. Gaylord W. Anderson, M.D., serves as chairman.

A statement of similar character was adopted by a conference sponsored by the U. S. Public Health Service. (See *Pub. Health Rep.* 67, 5:495 (May), 1952, and *J.A.M.A.* 149, 2:170 (May 10), 1952.)

STANDARDS FOR BAKING INDUSTRY

Encouraging progress toward the establishment of uniform specifications for the sanitary construction of equipment for the baking industry is reported by A. E. Abrahamson, the Association's representative on the Baking Industry Sanitation Standards Committee. The Standards Committee has been active since 1949 in giving guidance for:

> The sanitary design and construction of equipment.

Interpretation and enforcement of health codes dealing with baking machines and equipment.

Purchasers of equipment and machinery in the selection of satisfactory products.

The Committee has already approved design and construction for:

Flour handling equipment
Dough troughs
Proofers
Conveyors
Pan racks and utensil washers

Mr. Abrahamson is chief, Division of Wholesale Inspection, Bureau of Food and Drugs, New York City Health Department.

CORRECTION TO SECTIONAL REPORT "THERMAL STANDARDS IN INDUSTRY"

Our attention has been called to three corrections that should be made to the report of the Industrial Hygiene Section entitled "Thermal Standards in Industry." (See *A.J.P.H.* 40, 5:131—Part II, May, 1950).) These are:

Page 133, Table 1, p. 134 Fig. 1, and p. 135, first column, lines 12 and 13 from the top, change 240 Cal./m³/hr. (88 Btu/sq.ft./hr.) to 240 Cal./hr. (955 Btu/hr.)

Page 136, second column, line 11 from the top, change 240 Cal./m³/hr. (88 Btu/sq.ft./hr.) to 135 Cal./m³/hr. (50 Btu/sq.ft./hr.)

Page 136, Table 2, change 240 Cal./m³/hr. to 135 Cal./m³/hr.

NEWS OF APHA AFFILIATED SOCIETIES

North Dakota

At its 8th Annual Meeting held in Bismarck in October, the North Dakota Public Health Association elected the following officers:

President—Leonard R. Martl, head, Men's Physical Education, University of North Dakota, Grand Forks
President-Elect—Laura Smith, Lake Region Health Unit, Devils Lake
Vice-President—Frank E. Wheelon, M.D., health officer, District No. 1 Health Unit, Minot
Secretary-Treasurer—Lloyd D. Volker, University of North Dakota, Grand Forks

The North Dakota society's representative to the APHA Governing Council is Melvin E. Koons, chief, Laboratory Services, North Dakota State Department of Health.

Puerto Rico

The 11th Annual Meeting of the Puerto Rico Public Health Association was held on February 6 and 7 in San Juan. Speakers at the two-day meeting from the mainland included representatives of the Children's Bureau, Public Health Service, Department of Agriculture, American Geographical Society, and New England Medical Center. The 1952 officers are:

President—Dolores G. de la Caro, chief consultant, Medical Social Service, Department of Health, Santurce
President-Elect—Renato M. Royo, M.D., health officer, Department of Health, Ponce
Vice-President—Maria Santos, Public Health Unit, Bayamon
Secretary—Virginia T. Belaval, Department of Education, San Juan
Sub-Secretary—Luis Torres Aguiar, M.D., in charge of Infant Hygiene Clinics, Department of Health, San Juan
Treasurer—Rafael Dick, Health Education Division, Department of Health, San Juan
Representative to the APHA Governing Council—Nelson Biaggi, assistant professor of sanitation, School of Medicine, San Juan

Southern California

At its meeting last December, the Southern California Public Health Association elected the following officers to serve for the current year:

President—Ellarene MacCoy, M.D., medical consultant, Bureau of Vocational Rehabilitation, State Department of Education, Los Angeles
President-Elect—James W. Moreland, M.D., health officer, San Bernardino City Health Department
First Vice-President—Edward L. Russell, M.D., Orange County health officer, Santa Ana
Second Vice-President—Lenor S. Goerke, M.D., director, Bureau of Medical Services, Los Angeles City Health Department
Secretary-Treasurer—Gerald A. Heidbreder, M.D., chief, Division of Venereal Disease

Control, Los Angeles County Health Department

Assistant Secretary-Treasurer—William A. McCreery, chief sanitarian, Division of Training, Bureau of Sanitation, Los Angeles County Health Department

Immediate Past President—Charles L. Senn, engineer-director, Sanitation Bureau, Los Angeles City Health Department

Mr. Senn also represents this affiliated society on the Governing Council of the American Public Health Association.

Tennessee

The Tennessee Public Health Association held its 1952 Annual Meeting in Nashville on March 25–27. At this time the following officers were elected:

President—George M. Cameron, Ph.D., director of laboratories, State Department of Public Health, Nashville

President-Elect—Frank L. Roberts, M.D., vice-dean, University of Tennessee College of Medicine, Memphis

Vice-President—Paul M. Golley, M.D., director, Chattanooga-Hamilton County Health Department, Chattanooga

Secretary-Treasurer—Monroe F. Brown, M.D., director of local health service, State Department of Public Health, Nashville

Dr. Golley also serves as representative to the APHA Governing Council, with Ruth R. Puffer, Dr.P.H., as alternate.

Texas

The Texas Public Health Association held its 1952 Annual Meeting on February 17–20 in Galveston. Registration was 583. The 1953 meeting was announced for February 15–18 in Galveston. New officers are:

President—Henry E. Drumwright, chief, Public Health Inspection Service, Dallas Health Department

President-Elect—Roy G. Reed, M.D., director, Galveston County Health Unit, LaMarque

1st Vice-President—Edward F. Riedel, personnel director, State Department of Health, Austin

2nd Vice-President—Sidney W. Bohls, M.D., pathologist and clinical consultant, Communicable Disease Center, Public Health Service, Austin

Executive Secretary—Earle W. Sudderth, public health engineer, Dallas County Health Department, Dallas

Mr. Sudderth is also the official representative to the APHA Governing Council.

APPLICANTS FOR MEMBERSHIP

The following individuals have applied for membership in the Association. They have requested affiliation with the sections indicated.

Health Officers Section

L. S. Anderson, D.P.H., M.B., 1145 Cedar Ave., Trail, B.C., Canada, Director, West Kootenay Health Unit Area

Charles M. Cameron, Jr., M.D., Papago Indian Agency, Sells, Ariz., Director, USPHS

Joseph E. Cannon, M.D., 3030 Clermont St., Denver 7, Colo., Chief, Chronic Disease and Tuberculosis Section, State Dept. of Health

Donald R. Chadwick, M.D., Health Dept., Oxford, N. C., Health Officer, Granville County

A. Derwin Cooper, M.D., 300 E. Main St., Durham, N. C., Asst. Health Officer, Durham City-County Health Dept.

Raymond J. Dalton, M.D., Box 32, Key West, Fla., Director, Monroe County Health Dept.

Malcolm U. Dantzler, M.D., 310 Layton Court, Marion, S. C., Health Officer, Dillon-Marion County Health Dept.

Juan del Rio, M.D., Bayamon, Puerto Rico, Director, Public Health Unit, Dept. of Health

Mohammed Asghar Farooki, M.B., Hameed Manzil, Muslin St., Mohalla Islamabad, Sialkot City, W. Pakistan, Medical Officer, P.H.S. (class II) Health Services, Punjab Province, Pakistan

Jack J. Goldman, M.D., Erie County Health Dept., City Hall, Buffalo, N. Y., Resident

Public Health Physician, New York State Dept. of Health

Glen W. Kent, M.D., 3165 Rogers Ave., Walnut Creek, Calif., Student, School of Public Health, Univ. of California

Robert F. Kolts, D.O., 1513 E. 103rd St., Los Angeles 2, Calif., Asst. Health Officer, Los Angeles City Health Dept.

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Jose R. Limeres-Jimenez, M.D., Esperanza No. 17, Box 161, San German, Puerto Rico, Public Health Medical Officer at Cabo Rofo, Puerto Rico, Dept. of Health

Douglas W. McEnery, M.D., Health Dept., Office Bldg., Cheyenne, Wyo., Cancer Control Officer, Director Communicable Diseases

Ella A. Mead, M.D., 1303 9th Ave., Greeley, Colo., Acting Director, Weld County Public Health

Henry G. Nester, Ph.D., M.D., 2832 N. Capitol Ave., Indianapolis, Ind., Director of Public Health, Indianapolis Dept. of Public Health

William F. Ossenfort, M.D., 5851 Del Roy Drive, Dallas, Tex., Director, Hospital Facilities Program, Region VIII, USPHS

Walter R. Parker, M.D., Jackson, N. C., Medical Director, Northampton County Health Dept.

Hector M. Sampayo, M.D., Fortaleza No. 362, San Juan, Puerto Rico, Intern and Resident at Bayamon District Hospital

Samuel C. Smith, M.D., 824 Windsor Place, Ashland, Ky., Director, Ashland-Boyd County Health Dept.

Carl A. Waldemayer, M.D., 221 Johnson Road, London, Ky., Health Officer, Laurel and Knox Counties, State Board of Health

Morgan L. Zarfos, M.D., 731 S. Queen St., York, Pa., Medical Director, York County

Laboratory Section

Lt. Charles V. Adair, M.C., Army Medical Service Graduate School, Dept. of Virus and Rickettsial Diseases, Washington, D. C., Medical Officer, U. S. Army

Henry C. Allen, M.D., 35 N. Central, Clayton, Mo., Pathologist, Deaconess Hospital, Assoc., Clinical Pathological Laboratory

Hollis N. Allen, M.D., M.S., 634 N. Grand, St. Louis 3, Mo., Pathologist, St. John's Hospital, Director of Clinical Pathological Laboratory

Alex D. Burke, 1403 B. Ave., Apt. C, Lawton, Okla., Asst. Bacteriologist, State Dept. of Health

Carl S. Culbertson, M.D., 531 N. Main St., South Bend, Ind., Assoc. Director, South Bend Medical Foundation

Richard B. Eads, Ph.D., State Dept. of Health, Austin, Tex., Principal Entomologist

Lucy E. French, M.A., 1310 Bayview Place, Berkeley, Calif., Supervising Bacteriologist, State Division of Laboratories

Tom R. Hamilton, M.D., M.S., 5408 Mohawk, Kansas City 3, Kans., Professor of Microbiology and Comparative Pathology, Univ. of Kansas, School of Medicine

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Norman Kramer, Ph.D., New Customhouse, U. S. Food and Drug Administration, Philadelphia 6, Pa., Bacteriologist

Jack L. Lapuck, M.S., 817 Moody St., Waltham, Mass., Chief Bacteriologist and Chemist, Bradbury Research Associates

Sidney Lee, M.Ch.E., 2500 S. Ervay, Dallas, Tex., Director, Dallas Laboratories

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Donald C. Newell, D.O., P. O. Box 611, Oak Hill, W. Va., General Practitioner and Laboratory Director, Oak Hill Clinical Laboratory

Alexander Novick, 609 W. High, Jefferson City, Mo., Laboratory Technician II, Missouri Division of Health

Noel R. Rose, A.M., Ph.D., 78 Richfield Road, Williamsville 21, N. Y., Instructor in Bacteriology and Immunology, Dept. of Bacteriology and Immunology, Univ. of Buffalo

Lt. (jg) Reinhard S. Speck, M.C., USNR, 1521 Chestnut St., San Francisco, Calif., Medical Officer, U. S. Navy Medical Research Unit No. 1

Faustino Perozo Zambrano, M.T., San Martin (Avenida 3 I) No. 75-53, Bella Vista, Maracaibo, Venezuela, S. A., Director, Laboratorio Quimico-Bacteriologico Hnos. Perozo Zambrano

Statistics Section

Norman C. Allaway, 42 Spring St., Albany, N. Y., Biostatistician, New York State Dept. of Health

Hans A. Bruch, Dept. of Public Health, Statistical Service, Nashville 3, Tenn., Public Health Statistician, Servicio Cooperativo Interamericano Salud Publica

T. David Truan, M.A., 7462 Schoyer Ave., Pittsburgh 18, Pa., Research Assoc., Biostatistics Dept., Univ. of Pittsburgh

Engineering Section

Lt. Herbert E. Bell, Air Surgeons Office, Hq.

AMC, Wright-Patterson AFB, Ohio, Sanitary and Industrial Hygiene Engineer, Medical Service Corp., U. S. Air Force

Albert H. Brunwasser, 338 Cooley House, E.Q.U.A.D., Ann Arbor, Mich., Student, Univ. of Michigan, School of Public Health

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Roscoe W. Libby, 74 Sweden St., Caribou, Me., District Sanitary Engineer, State Bureau of Health

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Food and Nutrition Section

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Public Health Nursing Section

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Epidemiology Section

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Thomas A. Cockburn, M.D., D.P.H., 7601 Wornall Road, Kansas City, Mo., Epidemiologist, Chief, Encephalitis Investigations Unit

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School Health Section

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Eugene K. Magers, M.A., County Court House Annex, Santa Cruz, Calif., Supervisor of Health and Physical Education, Office of County Supt. of Schools, Santa Cruz County

Dental Health Section

Robert D. Fencl, D.D.S., 2148 S. Elmwood Ave., Berwyn, Ill., Chief of Dentistry, Stickney Township Public Health District

Jorge Padron, D.D.S., P. O. Box 258, San Sebastian, Puerto Rico, Dentist

Medical Care Section

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Julie G. Bishop, 2203 Webster St., San Francisco, Calif., Chief, Medical Record Librarian, USPHS Hospital

Ida M. Cannon, 85 Prescott St., Cambridge 38, Mass., Retired Social Worker

Lawrence M. Cutler, M.D., 31 Grove St., Bangor, Me., Active Practice, Internal Medicine

Earl H. Engel, M.D., 33 Emmons Court, Wyandotte, Mich., Physician, General Practice

Samuel H. Feder, No. 1 General Hospital, 24th and Cherry, Kansas City, Mo., Administrative Asst., Municipal Hospital of Kansas City, Mo.

Robert E. Johnson, M.H.A., 196 North St., Geneva, N. Y., Administrator, Geneva General Hospital

Simon O. Johnson, M.D., Lakin State Hospital, Lakin, W. Va., Supt.

Fred Kern, Jr., M.D., Denver General Hospital, Denver 4, Colo., Asst. Professor of Preventive Medicine and Public Health, Univ. of Colorado, Medical School

Philip J. Lang, M.H.A., Touro Infirmary, New Orleans 15, La., Asst. to the Director

Milton D. Levine, Sc.D., M.D., Box 1011, Lynch, Ky., Chief of Medicine and Asst. Director, Lynch Medical Plan

Theresa I. Lynch, Ed.D., 3629 Locust, Philadelphia 4, Pa., Dean, School of Nursing, Univ. of Pennsylvania

Elizabeth McKinley, M.A., 950 E. 59th St., Chicago 37, Ill., Director, Social Service Dept., Univ. of Chicago Clinics

Matthew F. McNulty, Jr., M.H.A., 132 Bagley Drive, Univ. of North Carolina, Chapel Hill, N. C., Student

Waldo R. McNutt, LL.B., M.P.H., Box 136, Frenchtown, N. J., Trustee, Hunterdon Medical Center

Gerald C. Stewart, Provincial Health Bldg.,

Regina, Sask., Canada, Administrative Consultant, Dept. of Public Health

Emma E. Thomas, M.S., 6621 Strathmore St., Chevy Chase 15, Md., Medical Social Consultant, Montgomery County Health Dept.

Eugene E. Tillock, 197 E. 7th St., New York 9, N. Y., Student, Hospital Administration, Columbia Univ., Graduate School of Public Health

Robert E. Wallace, M.P.H., 28 S. Prospect St., Ypsilanti, Mich., Asst. Supt., Beyer Memorial Hospital

Harold N. Willard, M.D., 525 E. 68th St., New York 21, N. Y., Asst. Professor of Preventive Medicine, Cornell Medical School

Unaffiliated

Isidor Abrahamer, M.D., 94–12 52nd Ave., Elmhurst 73, N. Y., Sr. Surgeon (R), USPHS, U. S. Quarantine Station

Mrs. Elizabeth C. Ayers, R.N., 8 Massachusetts Ave., Worcester 9, Mass., Volunteer Coordinator of the Worcester Hospital Auxiliaries

Samuel D. Bell, Jr., M.D., 2 Linden St., Brattleboro, Vt., Physician, General Practice

Robert E. Day, M.A., 207 Bartenbach Bldg., Grand Island, Neb., State Representative, National Foundation for Infantile Paralysis

Tom W. Haines, M.A., Thomasville Field Station, Thomasville, Ga., Commissioned Officer in the USPHS, S. A. San. (R) Entomologist, Communicable Disease Center

Arthur C. Herzberger, D.V.M., 2910 E. Highway 24, Colorado Springs, Colo., Practicing Veterinarian, City-County Health Dept.

S. Gordon Huff, M.D., 47 Congress St., Bradford, Pa., Physician-Clinician, Tuberculosis Control Clinic, State Health Dept.

James L. Kesterson, 315 Sprite Road, Louisville 7, Ky., Personnel Officer, State Dept. of Health

Darrell R. Maddock, M.S., Vista Court No. 7, Boise, Ida., Rodent Control Specialist, USPHS, Communicable Disease Center

Barbara Moulton, M.D., 815 S. Fell Ave., Normal, Ill., Asst. Director, University Health Service, Illinois State Normal Univ.

Antonio Rodriguez-Geigel, Ph.D., Box 2381, San Juan, Puerto Rico, General Manager, Puerto Rico Iron Works

Louis Rosenbaum, M.D., 940 Grand Concourse, New York 56, N. Y., Examining Physician, Bureau of Tuberculosis, New York City Dept. of Health

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Charles Whitcher, M.D., 3709 88th Ave., S.E., Mercer Island, Wash., General Practitioner, Group Health Cooperative

A.P.H.A. membership application blank on page XXXVII

ADVANCE REGISTRATION

FOR 80TH ANNUAL MEETING

AMERICAN PUBLIC HEALTH ASSOCIATION

CLEVELAND, OHIO, OCTOBER 20–24, 1952

Members and Fellows of the American Public Health Association and other health workers who are not members who wish to register in advance for the Cleveland Annual Meeting are cordially invited to do so. (NOTE: This year the Registration Desk will be located outside the exhibit hall at the entrance to the Auditorium. Admission to the exhibit area and meeting rooms will be only by display of the official badge. Advance registration will speed your receipt of the badge.)

Each person should fill in the coupon below or a facsimile thereof and mail it with the registration fee to the Central Office. We will prepare for your attendance in advance and you can then pick up your program and badge without delay at a special section as soon as you arrive at Registration Headquarters in the Public Auditorium. At that time your registration will have been recorded and it will only be necessary for you to supply your local hotel and room number to complete the registration procedure. If you know now at which hotel in Cleveland you will be staying, please add this information below.

Advance registrations cannot be accepted and recorded if received in Central Office after October 1, 1952.

Return to American Public Health Assn.,
1790 Broadway, New York 19, N. Y.

I wish to register in advance for the Cleveland Annual Meeting.

NAME .....

BUSINESS ADDRESS .....

CITY & STATE .....

TITLE OF POSITION .....

HOTEL IN CLEVELAND .....

Nonmember of A.P.H.A. Registration fee $4. ☐

Member of A.P.H.A. Registration fee $3. ☐

Fellow of A.P.H.A. Registration fee $3. ☐

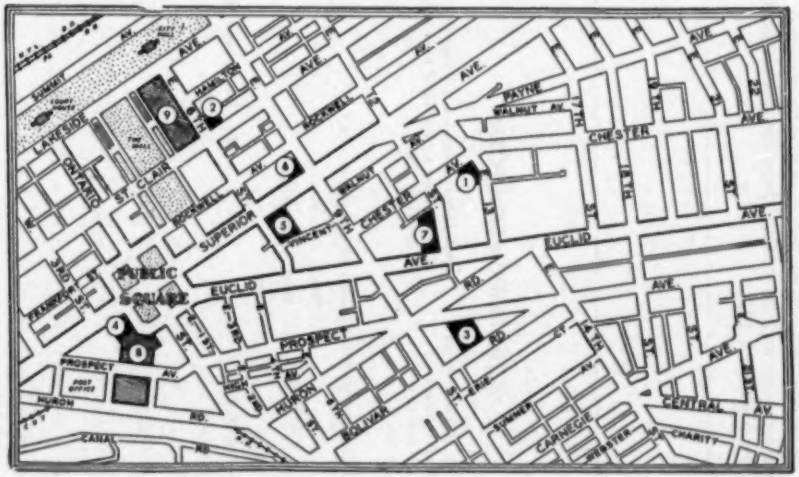
Please send check or money order for amount shown

If you will be accompanied by your wife (or husband) or other dependent member of your family who is entitled to free registration, please list the name and address below:

NAME .....RELATIONSHIP TO DELEGATE .....

STREET ADDRESS .....CITY & STATE .....

Street Plan of Cleveland Showing Location of Housing Bureau Hotels



Key

1. Allerton Hotel
2. Auditorium Hotel
3. Carter Hotel
4. Cleveland Hotel
5. Hollenden Hotel
6. Olmsted Hotel
7. Statler Hotel
8. Union Station—Terminal Tower
9. Public Auditorium

Hotel Reservation form is on the reverse side. Please indicate your first, second, and third choice hotel. Single rooms are limited.

All reservations will be confirmed if requests are received not later than October 10.

SCIENTIFIC EXHIBITS AT THE CLEVELAND ANNUAL MEETING

The Committee on Scientific Exhibits is accepting applications for scientific exhibit space at the 80th Annual Meeting. Health departments, schools of public health, and voluntary agencies are invited to participate. Individual research projects may also be exhibited.

Applications for space may be obtained from the Association Office—1790 Broadway, New York 19.

HOTEL RESERVATION FORM

MAIL TO: Mrs. Louise D. Perkins, Director
A.P.H.A. Housing Bureau
511 Terminal Tower
Cleveland 13, Ohio

Single rooms are very scarce. Please indicate if you would be willing to share a twin-bedded room with another member.
Yes ..... No. .....

PLEASE MAKE RESERVATIONS NOTED BELOW: (Please print or type.)

First Choice ..... Hotel Arrival: ....., at ..... a.m. ..... p.m.

Second Choice ..... Hotel Departure: ....., at ..... a.m. ..... p.m.

Third Choice ..... Hotel

..... Single room @ $ .....

..... Double room @ $ .....

..... Twin-bedded room @ $ .....

NAMES OF ALL OCCUPANTS: *ADDRESSES:*

.....

.....

.....

MAIL CONFIRMATION TO: Signed: .....

Address: .....
City Zone State

80TH ANNUAL MEETING

Cleveland, Ohio, October 20–24, 1952

A HOUSING BUREAU has been organized for the 80th Annual Meeting of the A.P.H.A. in Cleveland, October 20–24. Since all requests for rooms are handled in chronological order, it is recommended that you send in your application as quickly as possible.

These rates are subject to change at any time. The list includes some residential hotels which may not have rooms available for conventions at all times.

PLEASE COMPLETE THE APPLICATION FORM ON PAGE 760 GIVING *ALL* INFORMATION REQUESTED.

*HOTELS HOLDING ROOMS FOR A.P.H.A. AND RATES**

Hotel	*Single*	*Double*	*Twin-Bedded*
Alcazar Hotel	$6.50–8.00	$8.50–10.00	$ 8.50–12.00
Allerton Hotel	4.00–7.00 3.50 RW	6.50– 9.00	7.00–10.00 5.50 RW
Auditorium Hotel	4.00–7.00	6.00– 9.00	8.50– 9.50
Belmont Hotel	3.25–3.50	5.00– 5.75	4.25– 6.25
Bolton Square Hotel	3.50–5.00	5.50– 7.00	6.00– 7.50
Carter Hotel	4.00–7.50	6.00–10.00	8.00–12.00
Cleveland Hotel	4.50–8.00	7.00–10.00	10.00–15.00
Commodore Hotel	6.00–7.50	8.00–10.00	8.50–12.00
Hollenden Hotel	4.00–8.00	6.00–12.00	8.00–15.00
Lake Shore Hotel	5.00 up	8.00 up	8.00 up
New Amsterdam Hotel	3.00–4.00	5.50– 6.00	6.00– 7.00
Olmsted Hotel	3.75–6.00	6.50– 9.00	7.50– 9.50
Park Lane Villa	5.00	6.00	7.00– 8.00
Quad Hall Hotel	3.00–6.00		6.00–10.00
St. Regis Hotel	3.00–4.00	5.00– 8.00	5.00– 8.00
Sovereign Hotel	5.00–6.00	6.00–10.00	6.00–12.00
Statler Hotel	4.50–9.00	7.50–10.50	9.00–14.00
Stockbridge Hotel	3.00	5.00	6.00
Tudor Arms Hotel	4.50 up		7.00 up
Wade Park Manor	5.50 up	7.50 up	8.50 up
Westlake Hotel	5.00–6.00	8.00– 9.00	9.00

* Parlor suites available. Rates on request.

EMPLOYMENT SERVICE

The following pages present information for those seeking qualified public health personnel and for those seeking positions in public health.

This is a service of the Association conducted without expense to the employer or employee.

POSITIONS AVAILABLE

Director, Division of Disease Control—Physician-applicant must have M.P.H. degree and considerable public health experience. If Board certified, salary $10,000–$12,500. Position involves responsibility for direction of all disease programs except Maternal and Child Health. Opportunity for consideration as Deputy State Health Officer with substantial salary increase. Employment subject to merit system and retirement provisions. Write: G. D. Carlyle Thompson, M.D., Executive Officer, State Board of Health, Helena, Mont.

Director, Division of Tuberculosis Control—Challenging program and excellent rapport with physicians and other groups concerned. Experience in public health administration and chest diseases necessary. Salary approximately $8,500 per year. Write: L. E. Burney, M.D., State Health Commissioner, Indiana State Board of Health, 1330 W. Michigan St., Indianapolis 7, Ind.

Maternal and Child Health Director—Must be graduate of Class A medical school; eligible for Oklahoma license; have one year postgraduate study in public health at an approved school; five years public health experience; some substitution of training allowed for experience. Salary $8,580 to start. Write: State Health Dept., Oklahoma City, Okla.

Medical Health Officer—Salary range $7,200–$8,400, may start above minimum; must have capacity for good public relations. Write: Roy R. Rucker, Secretary-Treasurer, Lawrence-Wabash Health Dept., Lawrenceville, Ill.

Four Health Officers—Salaries up to $7,200 for untrained men; up to $10,800 for trained experienced men. Write: N. H. Dyer, M.D., State Director of Health, Charleston 5, W. Va.

Public Health Technologist II—for city public health department, graduate of an accredited college or university, chemistry major. Salary range $312–$327–$342–$357–$372 a month (may hire at not to exceed $342 depending on qualifications); automatic salary increases; state-wide retirement program. Write: Personnel Division, City Hall, Madison 3, Wis.

Public Health Physician—Serve as medical director of bi-county health department in southwestern Illinois on Ohio and Mississippi Rivers. Important public health job to be done. Salary $7,000. Write: Guy Jones, Secretary, Alexander-Pulaski Bi-County Board of Health, 1009 Walnut St., Cairo, Ill.

Sanitary Engineer—Trained, experienced sanitary engineer desired to direct all sanitation programs in the state as Director of the Bureau of Environmental Health, salary open, depends upon training and experience.

Sanitary Engineer—as Assistant Director, Division of Public Health Engineering, salary open. Write: Bruce Underwood, M.D., Commissioner of Health, 620 S. Third Street, Louisville 2, Ky.

Nurse—for Hardin County; a good place to work. Salary from $2,200–$2,500, depending on qualifications. If certified public health nurse, salary $2,600–$3,000. Travel $65 per month. Write: Preston E. Wright, M.D., Golconda, Ill.

Public Health Nurses—for county health units in both northern and southern areas of Arizona. Varying entrance salaries up to $280 or better per month. One position on state team working on labor camp problems. Write: Personnel Director, State Dept. of Health, Phoenix, Ariz.

Staff School Nurse—for small well organized school health department on beautiful Pacific Coast spot: beginning salary $3,350 to $3,600; 35-hour week; work nine calendar months; usual school vacations; annual increment up to $5,500; tenure after three years; B.A. and P.H.N. degrees; own car. Write: L. C. N. Wayland, M.D., Santa Barbara City Schools, Santa Barbara, Calif.

Public Health Nurses—with P.H.N. course. Generalized program, including school nursing. University training center. Starting salary $290 a month, 5-day week; liberal personnel policies. County car furnished, or 7¢ mile. Write: Personnel Dept., Kern County Court House, Bakersfield, Calif.

Nurses—for generalized program in combined city-county unit, 270,000 popu-

lation, retirement plan, vacation and sick leave; $45 a month travel allowance on own car. Requirements: registration in Kansas; completion of a year's approved program of study in public health nursing. Nurses with or without experience considered. Salary range $275–$313 per month; public health training center. Write: M. Leon Bauman, M.D., Director, Wichita-Sedgwick County Dept. of Public Health, 407 City Bldg., Wichita 1, Kans.

One-Nurse-County—Opportunities now in Oregon in Grant, Gilliam-Wheeler, Columbia and Union counties. Professional stimulation and inservice training available by conference, institutes, assistance of state consultants. Requirements: public health training and two years experience. Starting salaries $300–$325. Write: Director of Public Health Nursing, Oregon State Board of Health, 1400 S.W. Fifth, Portland 1, Ore.

Staff Public Health Nurse—for the Rochester-Olmsted County Health Unit operating a coöperative community program between the city health department, the public schools, and the county. Combined population 47,000. Health-conscious community, with excellent clinical and research facilities. Health Dept. has full well-qualified staff, generalized program, director of student program, mental health consultant nurse, active student program in coöperation with the University of Minnesota and the State Dept. of Health. New center. Degree and minimum public health training. Car optional; milage 7½¢ per mile. Minimum salary $2,988; salary adjustable within range, depending on experience and qualifications. Good personnel policies. Write: Miss Dorothy E. Anderson, Supervisor of Public Health Nursing, Public Health Center, Rochester, Minn.

Public Health Nurses—Generalized program in suburban area. Staff education and student program. Five-day week, vacations, sick leave and retirement benefits. Write: Jack H. Foster, Personnel Director, The Court House, Arlington, Va.

Medical Positions—Field Director—to supervise local health work in 40 counties, salary up to $11,000. **Chief of the Bureau of Preventive Medicine**—Salary up to $11,500. **Medical Consultant**—for Heart Disease Control Program, salary up to $8,500. **Local Health Officers**, salaries up to $7,200. All positions are for 5-day week and are under the Merit System. Additional allowance for travel. Actual salary depends upon training and experience. Write: Bruce Underwood, M.D., Commissioner of Health, Kentucky State Dept. of Health, 620 South Third Street, Louisville 2, Ky.

Medical Health Officer—for Shelby-Effingham County Health Department; central Illinois location; good schools; excellent rural communities. Salary range $6,900–$9,000; may start above minimum; must have capacity for good public relations. Write: J. H. Griffin, Teutopolis, Ill., or Dr. O. G. Kauder, Findlay, Ill.

Executive Director—Anti-Tuberculosis League, city of 212,313. Maximum starting salary, $5,000–$6,500. Degree from accredited college or university and/or three years progressively successful experience as an executive of a local tuberculosis association. Write: Anti-Tuberculosis League of Norfolk, 700 Front Street, Norfolk, Va.

Sanitarian II—Generalized environmental sanitation program, county-wide. State training, experience and references. Arizona State Merit System. Starting salary $286 to $311 depending on qualifications, up to $366 plus 7¢ per mile travel allowance. Write: William C. Rice, Yuma County Health Unit, Yuma, Ariz.

Sanitarian—for work in a rural community. Some experience or knowledge of procedure required. Most necessary is a willingness to meet and work with people on a friendly basis. Salary to start about $3,000, travel $85 per month. Write: Preston E. Wright, M.D., Golconda, Ill.

Sanitarians—for various counties in Arizona, with varying entrance salaries up to $311 or more per month. Write: Personnel Director, State Dept. of Health, Phoenix, Ariz.

Dental Hygienist—for well-organized school health department, lovely location on Pacific Coast; beginning salary $3,350–$3,600; 35-hour week; work nine calendar months; usual school vacations; annual increment up to $5,500; tenure after three years; B.A. and dental hygienist's certificate; own car. Write: L. C. N. Wayland, M.D., Santa Barbara City Schools, Santa Barbara, Calif.

Medical Director at Tuberculosis Hospital. Salary $6,700 and maintenance. Must have Massachusetts license or to reciprocate with State of Massachusetts. Write: Dr. Arthur J. Ledoux, Health Commissioner, Fall River, Mass.

Executive Director for Hartford Heart Association, a Chapter of the Connecticut Heart Association, a voluntary health agency now entering its fourth year of activity. Knowledge of community organ-

ization, health education and experience in fund raising desirable. Beginning salary $4,500–$5,000 depending on education, experience, and personal qualifications. Write: Personnel Committee, Hartford Health Association, 252 Asylum Street, Hartford, Conn.

Public Health Physician director City-County Health Department. M.P.H. or two years' experience; Michigan license required. Board Certification preferred. Salary open. Write: Board of Health, c/o Office of City Manager, City Hall, Kalamazoo, Mich.

ANNOUNCEMENT

New York State announces a nation-wide competition for Supervisor of Milk Sanitation to direct state-wide program of milk and restaurant sanitation. Qualifications: degree in Dairy Science, Sanitation, Sanitary Engineering, Veterinary Medicine, or Public Health, and nine years experience in public health sanitation or dairy science, including two years of major administrative experience in the direction of a large program of milk sanitation as a professor of sanitation or dairy science. Salary $8,350–$10,138. Write: Dept. of Civil Service, Examination Division, 39 Columbia Street, Albany, N. Y., or Rchard H. Mattox, New York State Department of Health, State Office Building, Albany, N. Y. Formal applications should be received by June 30, 1952.

POSITIONS WANTED

Health Educator—M.P.H. Two years experience with voluntary health agency. Excellent command of French, moderate ability in Spanish. Will be available after July 1, 1952.

Write: **Box HE-43**, Employment Service, A.P.H.A.

Public Health Dentist, M.P.H. degree. Ambitious, desires responsible position in dental public health administration. Considerable experience in directing dental program in large local health department. Write: Dr. Jerome X. Oltman, 5912 Scanlan Avenue, St. Louis, Mo.

NEWS FROM THE FIELD

DR. JOSEPH W. MOUNTIN

Joseph W. Mountin, M.D., F.A.P.H.A., Assistant Surgeon General, U. S. Public Health Service, Washington, and chief of the Bureau of State Services, died unexpectedly on April 26 at the age of 61. Dr. Mountin had been a Public Health Service Officer for 35 years, advancing through grades to that of Medical Director. He had been chief of the Bureau since November 1, 1951.

Dr. Mountin at the time of his death was a member of the Executive Board of the APHA, a member of the Governing Council, and a Board member of the National Organization for Public Health Nursing. He was a Diplomate of the American Board of Preventive Medicine and a Fellow of the American Medical Association.

He had been a consultant for a number of international projects during his career, including a Commission for the Government of India in 1947, adviser on Health and Welfare to the Economic Mission to Colombia, South America, in 1949, and at the time of his death he was Public Health Service Director of the evaluation of the ten year Health and Sanitation Program of the Institute of Inter-American Affairs.

A native of Wisconsin, Dr. Mountin received his medical degree from Marquette University, Milwaukee, in 1914. He began his career with the Public Health Service during World War I. Particularly fruitful among his assignments were those as director of the Division of Public Health Methods and of the Division of States Relations during which he administered the program of federal financial grants-in-aid to the states for public health purposes. Two of the major field stations of the Bureau of State Studies—the Communicable Disease Center in Atlanta and the Arctic Health Research Center, Anchorage, Alaska—were established largely through his efforts.

Among the most appreciated of Dr. Mountin's services to the APHA were his terms on the Committee on Administrative Practice and a five-year period, ending in 1949, during which he was chairman of the CAP Subcommittee on Medical Care. This contribution was especially recognized in an editorial (*A.J.P.H.*, June, 1949, p. 792).

VENEREAL DISEASES DECREASING IN FRANCE

The venereal diseases, and particularly syphilis, are in process of disappearing in France, according to information received by the American Social Hygiene Association from Dr. Andre Cavaillon, secretary-general of the International Union Against Venereal Diseases, and for many years director-general of health in the French ministry. In a recently published article, Dr. Cavaillon says "Syphilis was on the way out before the war began in 1939. There was an increase from 1940 to 1945, due to the dislocations of war, the occupation and the liberation, but the figures show a steady decrease since then."

The statement was made in refutation of the claims recently put forward by proponents of legalized prostitution that the French law adopted in 1946, whereby the brothels were put out of business, had been responsible for a great increase in VD. Mme. Marthe Richard, member of the French National Assembly and sponsor of the 1946 law, now believes that concentration and medical inspection of prostitutes, as

formerly, is the best way of dealing with the situation. However, other French legislators, reviewing the VD statistics, did not agree. Bills introduced before the Senate and the Assembly never came up for a vote, the Assembly's 32-member Committee for Family, Population and Public Health, voting unanimously (two members abstaining) to reject these measures and any future proposals which might lead to the brothels' reopening.

LOCAL GOVERNMENTAL UNITS DECREASE

In the 10 years since 1942, local governmental units in the United States have decreased nearly one-fourth, from more than 155,000 to fewer than 120,000. More than half of these governmental units are school districts of which there are more than 70,000. However, their number has decreased by 35 per cent in the 10 years. Five states—Arkansas, Illinois, New York, Oklahoma, and Texas—have consolidated or abolished more than half their school districts. Townships also decreased by about 8 per cent, while municipalities increased nearly 3 per cent in number.

Special districts—soil conservation, fire protection, highway, housing, irrigation, and others—have increased in number by more than 40 per cent in the 10 years, from 8,300 to nearly 12,000. Illinois and California each have more than 1,300 such districts. These states, together with 6 others, each having more than 500 special districts, account for nearly half of all of these local governmental jurisdictions in the entire nation.

The average number of units per state was less than 2,500, with a range of from 70 in Delaware to 9,309 in Minnesota. The latter state and 8 others with more than 5,000 units, accounted for more than half the total number of governmental units in the nation, although these 9 states contain less than 30 per cent of the country's total population. Among them they average one governmental unit for every 635 persons; Minnesota has one for every 320 persons.

This material in detail is found in *Governments in the United States in 1951*, No. 29 in the State and Local Government Special Studies, of the Bureau of the Census, Washington, D. C.

1952 PASSANO AWARD TO DR. EVANS

At a dinner in Chicago on May 11, during the annual meeting of the American Medical Association, Herbert McLean Evans, .M.D., professor of anatomy and Hertzian professor of biology and director of the Institute of Experimental Biology, University of California, received The Passano Foundation Award for 1952, for his work in vitamin and hormone research.

The $5,000 cash award was established in 1945. The Foundation was created two years earlier by the Williams & Wilkins Company, medical publishers of Baltimore, and is dedicated to the encouragement of medical research, especially that which has clinical application. For the past three years the winners have been: 1949, Oswald T. Avery, M.D.; 1950, E. C. Kendall, M.D., and Philip S. Hench, M.D.; 1951, Philip Levine, M.D., and Alexander S. Wiener, M.D. Each had previously received a Lasker Award of the American Public Health Association.

HEALTH ASPECTS OF SURVIVAL COURSE

The California School of Public Health and the University Extension, in coöperation with the State Civil Defense Organization offers a workshop on "The Health Aspects of Survival." To be held in Berkeley, June 23–July 3, it is planned for teachers and students of health. It is "designed to provide appropriate objectives and scientific materials for instruction of the general college and high school student," and is based on the "premise that personal and community health problems are inseparable."

Registration fee, $30, meals and lodging in Bowles Hall on the University of California Campus, $65. Two credit units for the course. Department of Conferences and Special Activities, University Extension, University of California, Berkeley 4, Calif.

NEW TROPICAL RESEARCH FOUNDATION

The Tropical Research Foundation has been established in Chicago through donations from American industry and private individuals. Its purpose is to support research in all phases of life in the tropics. One of its early projects is sponsorship in 1952 of an expedition to the Caribbean and Central and South America. The expedition will be directed by Oscar Felsenfeld, M.D., director of bacteriology in the Hektoen Institute for Medical Research of Chicago.

RADIOACTIVE CORTISONE

The National Institute of Arthritis and Metabolic Diseases has created a fund for the manufacture of radioactive cortisone for use in medical research. The radioactive cortisone has hitherto not been produced in sufficient quantity for research studies. The fund is being administered by a small committee of scientists from nonfederal research institutions, headed by Charles Huggins, M.D., of the University of Chicago.

In announcing the fund, Russell M. Wilder, M.D., director of the Institute, said "Radiocortisone will be a valuable tool for scientists, particularly those studying arthritis and the various metabolic diseases involving adrenal gland hormones. Further knowledge of these hormones might benefit the 7,500,000 Americans who suffer from rheumatic disease."

NEW "SLIDE RULE"—NEW USE

"A device for computing completed weeks of gestation" has been developed in a concerted effort to improve the reporting of "length of pregnancy in weeks" on the birth certificate. Worked out coöperatively by state health departments, the Children's Bureau, and the National Office of Vital Statistics, the device, operating on the slide rule principle, should reduce inaccuracies in reporting due to varied computing methods. The device has been made available to hospitals and may be obtained from state health departments or either of the two other coöperating agencies.

MEDICAL SOCIAL WORK SCHOLARSHIPS

The University of Illinois, Division of Services for Crippled Children, announces scholarships of $2,400 each, for a nine month academic year, for second or third year study in medical social work leading to a career in social work in a public health or medical care program. Provided through funds from the Children's Bureau, the scholarships are for study at the University of Chicago, School of Social Service Administration, which shares responsibility for selection of students.

Eligible are applicants who have satisfactorily completed one year of graduate study in an accredited school of social work, have had a successful experience in casework, and are interested in entering the field of public health, or in the teaching of medical social work. Applications should be made immediately to the Dean of the School of Social Service Administration, University of Chicago, Chicago 37, Ill.

1952 NATIONAL HOME SAFETY AWARDS

The Home Safety Conference of the National Safety Council invites organizations and agencies—national, state or local—as well as business and industrial companies that have conducted regular programs or single projects in home accident prevention during the year ending June 30, 1952, to report these activities for a National Home Safety Merit

Award. The purpose of these annual noncompetitive awards is to honor exceptional public service in this field. Each entry is considered on its own merits only. Any group or institution that did anything to reduce home accidents during the year ending June 30, 1952, on behalf of members, employees, or others—through education or otherwise—may win a 1952 Home Safety Merit Award.

Applications on the official blank, now available upon request, must reach the Council office by August 1, 1952. National Safety Council, Home Division, 425 N. Michigan Ave., Chicago 11, Ill.

NEGRO MEDICAL STUDENT FELLOWSHIPS

National Medical Fellowships has announced the granting of fellowships or scholarships to 43 Negro physicians and medical students for the year 1952–1953. Organized in 1946, to develop greater medical training opportunities for Negroes, Fellowships has now awarded more than $330,000 to 119 Negroes for training in medical specialties for support of undergraduates in medicine.

In announcing the 1952–1953 award, Franklin C. McLean, M.D., secretary, noted that opportunities and goals in medicine open to Negroes are multiplying all over the United States. The number of Negroes in unsegregated medical schools increased 318 per cent between 1938 and 1950—from 45 to 143—the latter number found in 43 institutions. However, if Negro students were enrolled in proportion to Negro population there would be approximately 2,600 in training, instead of the 700 at present.

MENTAL HOSPITAL STATISTICS

The second annual conference of mental hospital administrators and statisticians was held at the National Institute of Mental Health in Washington, D. C., in February, 1952. Those present represented the 11 states that are members of a Model Reporting Area for mental hospital statistics, begun in 1951.

Among the recommendations made were adoption, in the interest of comparability between states, of specific definitions of first admissions and resident patients respectively. A plan of cyclical reporting to supplement annual tabulation was approved. An annual Horatio M. Pollock Award in recognition of Dr. Pollock's contributions to mental hygiene statistics was recommended.

Additional states are encouraged to develop and improve their statistical systems. Minimum standards agreed upon at the Conference for a state's inclusion in the Model Reporting Area are a central reporting system, professional statistical personnel, and adoption of the uniform definitions, and annual preparation of the minimum basic tabulations recommended by the Model Reporting Area.

AREA COMMUNICABLE DISEASE REPORTS

Consolidated monthly summaries of Pacific area communicable disease reports are now being issued by the secretariat of the Pacific Science Council, with headquarters at Bishop Museum, Honolulu, Hawaii. Summary reports of more than 30 diseases are compiled on the basis of weekly and monthly reports normally issued in the various countries and territories of the Pacific. The six diseases presently reported on a worldwide basis by WHO are excluded from these summaries to avoid duplication. The Communicable Disease Reporting Service was set up after exploratory discussions with WHO and Pacific area health officials and was developed as the result of a resolution by the Seventh Pacific Science Congress, held in New Zealand in 1949.

The Congress is the periodic meeting of the Pacific Science Association organized in Honolulu at the first Pacific Science Congress in 1920. It consists of 36 members—countries or dependen-

cies within or bordering on the Pacific or having territorial responsibilities within the area. The territory or country is represented on the Council by its leading scientific organization. The executive body of the Association is the Pacific Science Council. The secretariat of the Council serves as an information dissemination center.

A committee of health officials from regions in and about the Pacific is a consultant group to the secretariat in this reporting program. The Territory of Hawaii Department of Health cooperates closely through technical advice and by making available its facilities for printing the summaries.

NEW YORK MENTAL HEALTH SOCIETY

The New York State Society for Mental Health has been organized by the State Charities Aid Association. The Society is successor to the Association's Committee on Mental Health which has been in existence for nearly 45 years.

The purpose of the new Society is "to provide a common meeting ground where private citizens . . . may work together in a unified and forward-looking effort to improve mental health in all communities of the state." Among the first projects of the Society will be a study of the New York State laws affecting mental health, including legislation relating to hospitalization of the mentally ill.

The governing board of the Society consists of representatives of county and city mental health groups. There are already 40 such county-wide organizations outside of New York City. There will be close coöperation between the Society and these local groups on the one hand and between the Society and the National Association for Mental Health on the other.

Temporary president of the Society is Nolan D. C. Lewis, M.D., director of the New York State Psychiatric Institute in New York City. Executive secretary is Margaret T. Ross, M.D., who is also director of mental health for the State Charities Aid Association.

A NEW GEORGIA HEALTH CENTER

The tri-county health department of Lamar, Pike, and Spalding counties in Georgia moved its offices into a new health center building late in 1952. Located in Barnesville, Lamar County, it is the center of community health activities including maternity and child health clinics, dental care, sanitation, and diet control. Because there is only one small hospital for the 50,000 population of the three counties, the health center includes 12 beds for obstetric patients as well as temporary treatment facilities for accident cases. The health officer is James H. Venable, M.D.

21 NEW MARKLE SCHOLARS

A new group of 21 young scientists, all of whom are medical school faculty members, has been selected as the fifth group of Scholars in Medical Science by the John and Mary R. Markle Foundation. The 21 were selected from 54 candidates, 39 of whom had three-day interviews with the selecting committees. The successful candidates are supported for five-year research programs at $6,000 annually, paid directly to the institution in which the research is carried on. The 1952 Scholars will be located in 21 institutions in 12 states and 3 Canadian provinces.

With the addition of the 1952 Scholars the Foundation has now appropriated over $2,500,000 for grants in support of 87 doctors in 49 medical schools.

In addition to their selection for scientific competence as vouched for by their medical schools, the Scholars are selected by a committee of laymen, such as lawyers, businessmen, editors and others, whose careers depend on their ability to judge men. The recommendations of this committee are made on the basis of regional three-day "house party" interviews conducted along the lines of

those held in Britain for selecting civil servants at the executive level.

CONSERVATION AND INSECT-BORNE DISEASES

With Dr. S. J. Ware as chief, a special Water Projects Section has been organized as part of the Communicable Disease Center, U. S. Public Health Service. Headquarters are in Salt Lake City, Utah. The section works with federal and state agencies to prevent the spread or introduction of insect-borne diseases associated with the development of water resources. Such a service has great significance in the arid and semi-arid states where irrigation frequently introduces the danger of mosquito-borne diseases.

A NEW USPHS CONSULTANT GROUP

Under the Defense Production Act the U. S. Public Health Service serves as the claimant agency for critical materials used in the construction of civilian hospitals and health facilities and for equipment and supplies needed for civilian health and sanitation activities, exclusive of those required by the Veterans Administration and the Federal Civil Defense programs. In carrying out this responsibility, Surgeon General Leonard A. Scheele has appointed a board of advisers. It is made up of 35 members, 21 representing professional public health agencies; 11 representing trade associations dealing with materials required in the health and sanitation programs. W. H. F. Warthen, M.D., Baltimore County health officer, represents the APHA on the consultant committee.

CHRONIC ILLNESS COMMISSION MOVES

With the appointment of Dean W. Roberts, M.D., as staff director of the Commission on Chronic Illness, the Commission's office headquarters are being moved from Chicago to Baltimore.

Among the new activities to be undertaken in Baltimore is a survey of 13,000 persons in 4,000 families to determine the needs of the chronically ill. This study among city dwellers is a companion to a study under way among the rural population of Hunterdon County, New Jersey. The two studies are expected to reveal significant information on the extent of chronic disease among both urban and rural populations; to indicate the extent and kind of need for chronic illness care in hospitals; the skills needed to provide this care; the kinds of home care needed; and the rehabilitation needs.

Dr. Roberts, the new director of the Commission is currently deputy director of the Maryland State Department of Health, in charge of its medical care program. He is also a lecturer in public health administration at Johns Hopkins University. He will begin his new duties on July 1, 1952, at which time the Commission will move to Baltimore.

AMERICAN WATER WORKS ASSOCIATION

The American Water Works Association elected the following officers for the year 1952 at its annual meeting in May:

President: Charles H. Capen, chief engineer, North Jersey District Water Supply Commission, Wanaque

Vice-president: Morrison B. Cunningham, superintendent, Water Department, Oklahoma City, Okla.

Treasurer: William W. Brush, editor, *Water Works Engineering*, New York, N. Y.

CONGENITAL HEART DISEASE PROGRAM

Through a grant from the U. S. Children's Bureau, the California State Department of Public Health has undertaken a regional program for children with congenital heart disease. By referral from various children's agencies, California will accept children from Arizona, Idaho, Nevada, Alaska, and Hawaii. These handicapped children

are in turn referred to participating hospitals and practising specialists. The hospitals participating in the program are Mount Zion, Stanford University, and the University of California Hospital in San Francisco, and the Children's Hospital in Los Angeles.

NEW CENTER FOR HEART SURGERY

An announcement was made late in April by the Children's Bureau that funds had been provided for partial financing of another children's surgery center for the correction of congenital heart defects. The center will be located at the Children's Memorial Hospital in Chicago, which will serve the children from twelve Midwestern states. Other projects of this type are now operating in Connecticut and California. Plans for the center were drawn up by Herbert R. Kobes, M.D., director of the Illinois Division of Services for Crippled Children.

RURAL USE OF HEALTH RESOURCES

A series of studies is being made in New York State to determine the use that rural people make of the health and medical resources available to them in the form of physicians, dentists, nurses and other personnel, hospitals, school health and public health services. The first of the series "Use of Health Resources in Two Central New York Counties, 1949" by Olaf F. Larson and Donald G. Hay, describes the situation in Cortland and Oswego counties with populations of 37,000 and 77,000 respectively.

Cortland County has a county health department, Oswego does not and is served through a health district of the State Department of Health. In Cortland County, two-thirds of the sample population interviewed knew of the county health department; in Oswego, only 6 per cent knew of the district state health office and fewer than one-third, of a town or village health office. In Cortland County, three-fifths and in Oswego, only one-half were aware of a school nurse or a school doctor. In Cortland County, one-fifth, in Oswego, two-fifths of those interviewed were unaware of any public health or school health services. Incidence of immunization for each diphtheria, smallpox, tetanus, and whooping cough was higher in Cortland than in Oswego County.

Similar studies are now in progress in two western counties—Chautauqua and Livingston—and will be extended to two eastern counties after which a detailed analysis will be presented "of the factors related to differential use of health resources by rural New York people."

The study is *Mimeograph Bulletin No. 27*, Department of Rural Sociology, Cornell University, which made the study in coöperation with the U. S. Bureau of Agricultural Economics, Ithaca, N. Y., June, 1951.

RICKETTS MEDAL TO DR. FRANCIS

Thomas Francis, Jr., M.D., chairman of the Department of Epidemiology, University of Michigan School of Public Health, Ann Arbor, has been awarded the Howard Ricketts Medal of the University of Chicago in recognition of his work on influenza viruses.

The Ricketts Medal, honoring the late University of Chicago physician who died of typhus in 1910, was established in 1949. Previous recipients include Dr. Ludvig Hektoen, Dr. Russell Wilder, Dr. S. Burt Wolbach, and Dr. Herald R. Cox.

The award was presented to Dr. Francis on May 12 when he addressed the University of Chicago meeting on "The Significance of Variation Among Influenza Viruses."

PRESIDENT'S HEALTH COMMISSION

The President's Commission on the Health Needs of the Nation, recently appointed with Paul D. Magnuson,

M.D., as chairman, has divided its work into three phases:

a. an inventory of health resources
b. an estimate of health needs, and,
c. recommendations

In estimating the health needs of the nation, the Commission has outlined 22 areas in which study panels will define the issues and contribute suggestions from their experience and opinion toward the solution of problems found to exist. Each study panel begins its work with a one-day meeting, a proposed agenda is submitted to members in advance. Each panel includes two Commission members, one as chairman, the other as reporter or observer. In addition, each panel meeting has a keynoter. Two or three panel meetings are being held weekly with the hope that by early summer all 22 will have been held.

The 22 areas for panel work are:

General Practice
Specialization
Group Practice
Regionalization
Promotion of Health
Prevention of Disease
Rehabilitation
Rural Health
Industrial Health
Child Health
Health of the Aging
Care of the Chronically Ill
Care of the Mentally Ill
Hospital Care
Military Medicine
Training of Personnel
Research
Prepayment for Health Care
Public Medical Care
Organization of Government Health Agencies
Dental Care
Nursing Care

Donald M. Clark, M.D., a general practitioner of Peterboro, N. H., was recently added to the Commission. He served as the keynoter of the panel meeting on General Practice held early in April.

HEALTH AND WELFARE COUNCILS MERGE

In New York City the Welfare Council, now in existence more than a quarter of a century, and the Health Council, with six years of history, were consolidated at the end of March. The new Welfare and Health Council of New York City is made up of nearly 400 member agencies in the health and welfare field. One of the emphases of the new organization is reported to be greater citizen participation, and greater representation by agencies interested in health and welfare although not carrying on a service program.

Raymond Hilliard, executive director of the Welfare Council, is the executive of the new agency. His deputy is Aubrey Mallach, who was the executive director of the Health Council.

FIRST M & R LABORATORIES AWARDS

The American Academy of General Practice has inaugurated two annual awards of an engraved plaque and $1,000 to members for the most significant articles for publication in *GP*, official organ of the Academy. The awards have been made possible by M & R Laboratories, producers of breast milk substitutes sold only upon recommendation by physicians.

The 1951 awards, presented at the 4th Annual Assembly at Atlantic City on March 25, were made to J. Dewitt Fox, M.D., of Washington, D.C., and D. G. Miller, Jr., M.D., of Morgantown, Ky. Dr. Fox's paper, "ACTH and Cortisone—Miracle Therapy or Medical Tool?" was published in February, 1951; Dr. Miller's, "Bites and Stings," in July.

WHO NEWS

1953 Program and Budget Estimates

The proposed WHO program and budget estimates for the calendar year 1953, were published in March, 1952. The introduction by the director-general, Brock Chisholm, M.D., is significant for its clear statement of the place that WHO tries to fill and the indivisible relationship between the problems with which it deals and those dealt with by other specialized UN agencies.

The estimated budget for 1953 is a little over 24 million dollars, a 9 per cent

increase over 1952, and nearly double the 1951 budget. The total budget comes from three sources: direct contributions from the governments of countries that are members of WHO; allocations from the UN from contributions of UN member agencies for technical assistance; and other sources, including UNICEF, special allocations from UN, gifts, and miscellaneous. The largest of these items, 36 per cent of the total, is the technical assistance fund for such health activities as the control of malaria in the interests of increased food production. The regular WHO budget accounts for a slightly smaller per cent and other sources for about 28 per cent.

As to uses for which the budget is to be put, 81 per cent is allocated to the 6 regional offices. The budget for these regional offices is approximately 30 per cent for the Eastern Mediterranean; 25 per cent for Southeast Asia; 22 per cent for the Americas (Central and South America); 8 per cent each for Europe and the Western Pacific; 5 per cent for Africa. Personnel is analyzed in the same categories, together with detailed figures for each region. In the regional budgets, estimated contributions for WHO-aided projects by the respective governments are also shown. In the Americas the government contributions are larger than the WHO budget; in the Western Pacific, they are nearly as large. In Indonesia, the estimated government contribution is more than twice the WHO budget; in Ethiopia it is larger.

Official Records of the World Health Organization. International Documents Service, Columbia University Press, 2960 Broadway, New York 27, N. Y.

Cerebrospinal Meningitis Epidemic

At the request of the Sudanese Ministry of Health, two staff members of the Eastern Mediterranean Office of WHO were in Khartoum in April to help in the control of a cerebrospinal meningitis epidemic. In addition, WHO made a grant of $15,000 for scientific personnel and medicines. Cerebrospinal meningitis is said to be the most widespread epidemic disease in Africa, responsible in the past decade for an estimated 500,000 cases and thousands of deaths. The number of reported cases in the Sudan increased from 6,000 in 1950 to 57,000 in 1951.

The WHO team—Dr. Atilio Macchiavello, director of health services, and Dr. Wasfy Omar, chief of the regional epidemiological intelligence service—instituted a new method of control. In the past an attempt was made to isolate and treat all cases that could be reached. The new method involves controlling a whole community where the disease has appeared and attempting to reduce the carrier rate below the danger line by injecting the whole population with procaine penicillin in oil that has an effect that lasts for some days, eliminating the sources of contagion. This was done in two villages of one province. Other villages were treated in a similar manner with sulfa drugs in various forms and neighboring villages were included in the scheme for control purposes.

Results of these experiments are now awaited. If successful, they will point to much more efficient methods of combating the disease, since many rural communities can be similarly treated when cerebrospinal meningitis appears at the beginning of the season.

Upon the return of the team, Dr. William E. Clark, on loan to WHO from the U. S. Public Health Service, went to the Sudan for a several weeks' study of the epidemic. At the same time, Chas. Pfizer and Co., Inc., made a gift of terramycin to WHO, part of which was sent directly by air to the Sudan Medical Services for use in combating the epidemic.

Health Campaigns in Philippines

Yaws, tuberculosis, malaria and schis-

tosomiasis are each under attack in the Philippines through the coöperative effort of the island government and WHO. Dr. C. M. Hasselman, director of the Skin Clinic at Erlangen University, Germany, is WHO consultant to the Philippines' Health Service for the yaws project. UNICEF is furnishing supplies and equipment.

The BCG vaccination program is expected to cover the entire country in about five years. For the first year, Dr. Anton Geser, of Denmark, with nearly four years experience in similar programs in many countries, will work with officials of the Philippine Department of Health in Manila.

A bilharziasis (schistosomiasis or snail fever) control campaign has been begun by an agreement between the Philippine Secretary of Health and the Western Pacific Regional Office of WHO. The agreement provides for drawing up a national control program in which WHO will continue to give technical assistance in 1953, and future years.

The victims of snail fever, largely in rural areas, are mostly agricultural workers. Thus, the disease has a direct effect on food production. It is reported that nearly three-quarters-of-a-million persons are affected.

The first Philippine Malaria Control project aided by WHO began on the Island of Mindoro in February. A team of WHO and Philippine experts began spraying insecticides in a rice growing area, where the program is expected to result in improved food production as well. In 18 months it is hoped to protect more than 50,000 persons from malaria, after which the Philippine government will take over and extend control measures. For the pilot project the territorial government is providing transport of insecticides and sprayers; WHO, laboratory equipment and supplies, and technical literature as well as two international experts—Dr. G. Sambasivan, malariologist, and Dr. M. Bhatia, entomologist. They had previously completed a successful malaria demonstration control project in Thailand.

665 Fellowships in Fifth Year, 1951

The March *Chronicle* of WHO reports that in 1951 under the fellowship program, 665 fellowships were awarded to candidates from 74 countries. Of the total, more than three-fourths were financed as well as administered by WHO, while the remaining fourth were financed by other sources. More than two-fifths of the fellowships were granted for group training courses, seminars, symposia, etc., a type representing an increasingly large number.

Another tendency noted is a trend toward decentralization and regionalization; 66 per cent of the 1951 awards were intraregional. Among the subjects for which awards were granted were: control of tuberculosis, venereal diseases, and malaria, 101; public health administration, 72; sanitation, 50; and maternal and child health and pediatrics, 48.

A pocket-size booklet for the use of governments and prospective Fellows has been prepared to give details on objectives of the program, selection of candidates, stipends, publications by Fellows, and forms for application. ***World Health Organization: An Information Booklet***, in English and in French. Available from the Geneva Office, WHO.

MCH Demonstration Team in Lebanon

As an integral part of the National Health Service of Lebanon, WHO has sent a maternal and child health demonstration team to Lebanon. The team is assisting Lebanese personnel in setting up in Beirut a demonstration and training center for the care of mothers and children. Nurses are brought to the center for several months' training preparatory to work in rural centers.

The Lebanese government which plans to continue the work on a permanent

basis is providing the building and all matching staff. UNICEF is equipping the center with instruments, drugs, books, and laboratory and other supplies. Leader of the WHO team is Dr. Edyth Morris, of Johannesburg, South Africa, who has had extensive public health experience in Africa.

PERSONALS

HERBERT K. ABRAMS, M.D.,* since 1947 chief, Bureau of Adult Health, California State Health Department, has been appointed director, Chicago Labor Health Center which is to be developed by the health and welfare fund of Building Service Employees International Union, Local 25, A.F.L.

PAUL T. ANDERSON is now district engineer for the Southeastern District of the Massachusetts Department of Public Health, succeeding WILLIAM H. DOGGETT, retired.

PAUL B. BEESON, M.D., chairman of the Department of Medicine of the Emory University School of Medicine in Atlanta since 1946, has been appointed Ensign professor of medicine and successor to the late FRANCIS G. BLAKE, M.D., as chairman of the Department of Internal Medicine, Yale University, New Haven.

ELEANOR A. BLISS, M.D., assistant professor of preventive medicine at the Johns Hopkins University Medical School in Baltimore, has been appointed dean of the Graduate School, Bryn Mawr College, Pennsylvania, succeeding LILY ROSS TAYLOR, M.D., retired.

WALTER A. BLOEDORN, M.D., dean of George Washington University School of Medicine, has been named a member of the advisory committee on medicine and public health of the W. K. Kellogg Foundation, Battle Creek, Mich.

ALONZO F. BRAND, M.D.,† is the medical director of Region 10, Public Health Service, San Francisco, Calif., and has not been succeeded by GILBERT L. DUNNAHOO, M.D.,† as stated in the April issue of the Journal.

I. JAY BRIGHTMAN, M.D.,* a member of the staff of the New York State Department of Health Albany, has been assigned on a full-time basis to the New York State Department of Social Welfare to supervise all medical and health aspects of the welfare programs. His new title is assistant commissioner for welfare medical services.

MAX R. BURNELL, M.D., medical director of the General Motors Corporation, was recently given the 14th annual Knudsen Award of the Industrial Medical Association for the year's outstanding contribution to industrial medicine, particularly the part he played in General Motors' contribution of more than $1,500,000 to the University of Michigan for establishment of the Institute of Industrial Health, dedicated to research, education and service in industrial medicine.

ROBERT CASSELL and ROBERT FIELD were recently added to the staff of the food sanitation program, Peoria (Ill.) Department of Health.

MARIAN CHLADEK, R.N., former supervisor of nursing in the Winona (Minnesota) Department of Health, has been appointed director of the Division of Public Health Nursing, Wyoming State Department of Health.

WILLIAM H. CLARK, M.D., M.P.H., epidemiologist of the Atlanta Communicable Disease Center, Public Health Service, has been loaned by the U. S. Public Health Service to the World Health Organization at the request of WHO's Regional Office, Alexandria, Egypt, to assist local health authorities in Khartoum, Anglo-Egyptian Sudan.

JEAN CRAWFORD, field consultant on personnel and training, National Tuberculosis Association, has been appointed personnel officer of the Association. She succeeds RAYMOND CALLAHAN, resigned to become personnel director for an industrial firm.

FRANCES L. DAVIDSON, formerly public health nursing consultant in Hammond, Ind., is now public health nursing consultant in maternal and child health on the Montana State Board of Health, succeeding EDNA KUHN, resigned.

E. C. DREISCHER, M.D.,* Public Health Service consultant to the City of Pittsburgh during the reorganization of that city's health department, has been made chief of the Public Health Service's Division of Commissioned Officers, succeeding EUGENE A. GILLIS, M.D.,* who has been assigned as consultant to the Lebanese Government to assist in the development of public health services in that country.

JEAN DUBOIS, R.N., and JOSEPHINE PEDULLA, R.N., have been appointed assistant district supervising nurses, New York State Department of Health, assigned respectively to the Saranac Lake and Watertown Districts.

RENE J. DUBOS, M.D., a member of the Rockefeller Institute of Medical Research, has received the 1952 annual Research Award of the American Pharmaceutical Manufacturers' Association for scientific contributions to the "welfare of mankind."

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* Fellow.
† Member.

The award presented at the 45th annual convention of the Association hailed Dr. Dubos as "perhaps the greatest authority on the bacteriology, immunology and biochemistry of the bacillus of tuberculosis."

PAUL B. DUNBAR, Ph.D., who retired as commissioner of the Federal Food and Drug Administration, in 1951, received the special annual award of the American Pharmaceutical Manufacturers' Association for outstanding service in helping to uphold the "high standards of public health" in the United States. The award was made at the Association's 45th annual convention in April, 1952.

FREDERIC E. ELLIOTT, M.D., vice-president of United Medical Service, New York's Blue Shield Plan, has been elected secretary of the Blue Shield Commission, national service agency of the Blue Shield Plans.

PAUL F. FAUNCE, D.M.D., practising dentist, recently became assistant director of the Division of Dental Health, Massachusetts Department of Public Health.

ROY F. FEEMSTER, M.D.,* director, Division of Communicable Diseases, Massachusetts Department of Public Health, is one of a team of American experts loaned to Pakistan under the Point Four Program of the U. S. Department of State. He left Boston on April 18 on a 3 months' loan.

JAMES GARRETT, Ph.D., formerly director of psycho-social services at the Institute for Physical Medicine and Rehabilitation, New York University-Bellevue Hospital center, is the new chief of the division of program services for the Office of Vocational Rehabilitation, FSA.

WILLIAM H. GAUB, Ph.D.,* has joined the WHO staff as a senior medical specialist in Madras, India. Dr. Gaub has been in the Arctic Health Research Center, Anchorage, Alaska, for the past 3 years.

ALFRED GELLHORN, M.D., associate professor of medicine, College of Physicians and Surgeons of Columbia University, has been appointed director of the Institute of Cancer Research in the Frances Delafield Hospital. He succeeds CUSHMAN D. HAAGENSEN, M.D., who resigned to conduct research and write a book on tumors of the breast.

LEONARD J. GOLDWATER, M.D.,† professor of occupational medicine, Columbia University's School of Public Health, has been appointed consultant on cardiac rehabilitation, Federal Office of Vocational Rehabilitation, to advise on the setting up of new centers of job evaluation and placement for people with heart disease.

LEONARD GREENBURG, M.D.,* director, Division of Industrial Hygiene and Safety Standards, New York State Department of Labor, was awarded the Cummings Award of the American Industrial Hygiene Association during the meeting of the Association on April 22. The citation mentioned his "contributions to the knowledge and practice of the profession of industrial hygiene."

LOIS HINSON, D.V.M., formerly on the staff of the Northside Animal Hospital, Atlanta, Ga., is now on the staff of the Division of Sanitation, Peoria (Ill.) Health Department.

J. AXEL HÖJER, M.D.,* chief medical officer of the Swedish Ministry of Health, Stockholm, arrived in New York City on April 3 to attend meetings of the WHO-UNICEF Committee. Dr. Höjer was elected an Honorary Fellow of the APHA in 1951.

FRED R. INGRAM,* chief engineer and assistant chief, Bureau of Adult Health, California State Department of Public Health, has resigned to become engineer administrator of the University of California's newly created Division of Occupational Health, with the title of chief industrial health safety engineer. This division will be responsible for the on-the-job health of employees on all campuses.

RUTH KAHL, R.N.,* U. S. Public Health Service nurse officer, for the last two years public health nurse consultant in the Service Occupational Health Field Station in Salt Lake City, has been assigned to the Department of State as director of nursing for domestic and foreign health services. She succeeds EMIJEAN SNEDEGAR who was killed in a plane crash near Tehran.

MADELINE KINGERSKI, R.N., has been appointed supervisor for the public health nursing division, Peoria (Ill.) Department of Health. She succeeds HAZEL OWEN, R.N.,† loaned to the department for a year by the U. S. Public Health Service.

PAUL H. LEACH, M.D.,† industrial hygiene medical officer, Bureau of Adult Health, California State Department of Health, has resigned to become assistant medical director for Richfield Oil Corporation with headquarters in Los Angeles.

H. HOUSTON MERRITT, M.D., professor of neurology at Columbia University and director of the Neurological Service of the Neurological Institute of Presbyterian Hospital, has been appointed to the Advisory Committee on Virus Research and Epidemiology of the National Foundation for Infantile Paralysis.

MAJOR HARRIET S. LEE of the Women's Medical Specialist Corps and vice-president of the American Physical Therapy Association, has been sworn in as chief of the Physical Therapist Section of the Corps and pro-

moted to the rank of Lieutenant Colonel.

MORTON L. LEVIN, M.D.,* assistant commissioner for medical services and formerly director of the New York State Health Department's Bureau of Cancer Control, has assumed active direction of Roswell Park Memorial Institute, pending the appointment of a successor to LOUIS C. KRESS, M.D., deceased.

RAYMOND F. MALE, for the past 3 months director of personnel for the City of Philadelphia, has been named administrative director of the National Association for Mental Health, New York City.

CHARLES D. MARPLE, M.D.,† formerly assistant clinical professor of medicine at the University of California School of Medicine, has been appointed medical director of the American Heart Association, New York City.

JOSEPH FRANCIS NEE,† for the past 2 years regional director for 12 northeastern states, has been made assistant director of fund raising, National Foundation for Infantile Paralysis, succeeding DONALD V. TAVERNER, resigned to become executive secretary of the University of Maine Alumni Association.

ELIZABETH OGDEN, R.N.,† who has been staff nurse with the Nassau County Health Department for the past several months, has been assigned to the Rochester District, New York State Department of Health, as assistant district supervising nurse.

JOHN R. PHILP, M.D.,* health officer of Butte County, Calif, has resigned to become an assistant chief in the Division of Local Health Services, California State Department of Health.

WALTER B. QUISENBERRY, M.D.,* has been director, Division of Preventive Medicine, Hawaii Territorial Health Department since August, 1951, having been for the previous five years chief of the Bureau of Venereal Diseases and Cancer Control.

DR. PIYA RANGSIT, assistant dean and head of the Department of Physiology of the Faculty of Veterinary Science, University of Medical Science, Bangkok, Thailand, is on a 4 month visit to the United States sponsored by the Department of State.

DAVID E. SINGER, formerly in charge of clinical bacteriology for the central laboratory of the Florida State Department of Health, has joined the Department of Microbiology in the USAF, School of Aviation Medicine, Randolph Field, Texas.

HELEN SPERLING, R.N.,† for the past 3 years with the Kansas Crippled Children Commission, is now on the staff of Public Health Nursing Services, Kansas State Board of Health.

WYMAN R. STONE,† who since 1946 has been in Mexico in the field party of the health and sanitation program of the Institute of Inter-American Affairs, has been appointed director of the Institute's Division of Health, Welfare and Housing, with headquarters in Washington, D. C.

FRANKLIN H. TOP, M.D.,* professor of epidemiology at the University of Minnesota, has been named professor and head of the Department of Hygiene and Preventive Medicine, Iowa State University College of Medicine. He succeeds MILFORD E. BARNES, M.D.,* head of the department since 1930.

LT. COL. STANLEY J. WEIDENKOPF, MSC,† is now chief of the Sanitary Engineering Section of the Medical Service Corps in the Office of the Army Surgeon General, succeeding LT. COL. RAYMOND J. KARPEN, MSC,* who assumed Col. Weidenkopf's former position at General Headquarters of the Far East Command in Tokyo.

MILDRED C. WILLIFORD† joined the staff of the Peoria (Ill.) County Health Department in October as health education director.

OVELIA WINSTEAD, R.N., U. S. Public Health Service nurse officer who has been with the Eaton County Health Department, Michigan, since 1948, is now with Point 4 Mission in Iran in Tehran, where she will work with Iranian nurses and other health workers to extend public health nursing services, particularly in the rural areas.

NEW APPOINTMENTS TO THE FACULTY OF THE UNIVERSITY OF PITTSBURGH GRADUATE SCHOOL OF PUBLIC HEALTH:

SIDNEY COBB, M.D.,* formerly director of the Nashoba Health Unit, Ayer, Mass., and instructor in public health practice, Harvard School of Public Health, as assistant professor of biostatistics and epidemiology.

JAMES S. DINNING, Ph.D., formerly assistant professor of biochemistry at the University of Arkansas School of Medicine, as assistant professor of biochemistry and nutrition.

ELIZABETH R. KRAMM, M.P.H.,† formerly public health analyst, California State Health Department, as research associate in Maternal and Child Health.

MILDRED MOUW, R.N.,† formerly director of Public Health Nurses, Rochester-Olmsted County Health Department, Minnesota, as assistant professor of public health nursing.

DEATHS

CLAUDE S. BRYAN, D.V.M., Ph.D.,* dean of veterinary medicine, School of Veterinary Medicine, Michigan State College, East Lansing (Laboratory Section).

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* Fellow.
† Member.

DANA COMAN, M.D.,* scientific advisor, Office of Quartermaster General, Department of the Army, on January 28 at the age of 56 while at the Canadian-United States test and development station in North Central Canada (Unaffiliated).

RAYMOND A. KELSER, D.V.M., Ph.D.,* dean, School of Veterinary Medicine, University of Pennsylvania, Philadelphia (Laboratory Section).

LOUIS C. KRESS, M.D., director of the Roswell Park Memorial Institute at Buffalo, on March 13.

CHALMERS J. LONGSTREET, M.D., health officer of the City of Binghamton (N.Y.) for more than 20 years before his retirement in 1946, on March 6 at the age of 78.

GEORGE W. MCCOY, M.D.,† medical director, U. S. Public Health Service (R) (Laboratory Section).

JOSEPH W. MOUNTIN, M.D.,* assistant surgeon general, U. S. Public Health Service, Washington, and chief of the Bureau of State Services, on April 26 at the age of 61 (Health Officers Section).

C. LAURENCE WARWICK, executive secretary, American Society for Testing Materials, and its administrative head since 1919, died suddenly April 23.

CONFERENCES AND DATES

American Public Health Association. Headquarters, Public Auditorium, Cleveland, Ohio. Oct. 20–24.

Coming in June, July, August, and September:

Air Pollution and Smoke Prevention Association of America. Hotel Statler, Cleveland, Ohio. June 9–12.

American Congress on Industrial Medicine. Rio de Janeiro, Brazil. Sept. 20–28.

American Diabetes Association. Annual Meeting. Chicago, Ill. June 7–8.

American Hearing Society. Annual Meeting. Chicago, Ill. June 28.

American Home Economics Association. Atlantic City, N. J. June 24–27.

American Hospital Association. Philadelphia, Pa. Sept. 15–18.

American Library Association. Waldorf-Astoria Hotel, New York, N. Y. June 27–July 5.

American Medical Association. Annual Meeting. Chicago, Ill. June 9–13.

American National Red Cross. Annual Convention. Cleveland, Ohio. June 23–26.

American Nurses' Association. Biennial Nursing Convention. Atlantic City, N. J. June 16–20.

American Pharmaceutical Association. Bellevue-Stratford Hotel, Philadelphia, Pa. Aug. 17–23.

American Physical Therapy Association. Bellevue-Stratford Hotel, Philadelphia, Pa. June 23–27.

American Society of Medical Technologists. Portland, Ore. June 23–26.

American Sociological Society. Ambassador Hotel, Atlantic City, N. J. Sept. 3–5.

American Veterinary Medical Association. Ambassador Hotel, Atlantic City, N. J. June 23–26.

American Water Works Association. Pennsylvania Section. Lawrence Hotel, Erie. June 18–20.

Canadian Public Health Association. Fort Garry Hotel, Winnepeg, Manitoba. June 16–19.

Colorado Public Health Association with Western Branch. Shirley-Savoy Hotel, Denver. June 5.

Governors' Conference. Shamrock Hotel, Houston, Tex. June 29–July 2.

Illuminating Engineering Society. National Technical Conference. Edgewater Beach Hotel, Chicago, Ill. Sept. 8–12.

Inter-American Congress of Public Health. Havana, Cuba. Sept. 27–Oct. 1.

International City Managers' Association. Kansas City, Mo. Sept. 28–Oct. 2.

International Union Against Tuberculosis and International Congress on Diseases of the Chest. Rio de Janeiro, Brazil. Aug. 24–30.

Massachusetts Public Health Association. University of Massachusetts Campus, Amherst. June 18–20.

Michigan Fifth Annual Conference on Aging. University of Michigan, Ann Arbor. June 24–26.

National Conference on Interstate Milk Shipments. Annual Conference. Statler Hotel, St. Louis, Mo. June 10–12.

National Council on Family Relations. New Brunswick, N. J. Aug. 31–Sept. 3.

National Education Association. Detroit, Mich. June 30–July 4.

National League of Nursing Education. Atlantic City, N. J. June 16–20.

National Medical Association, Inc. Meharry University, Nashville, Tenn. Aug. 11–15.

National Organization for Public Health Nursing. Biennial Nursing Convention. Atlantic City, N. J. June 14–20.

New England Health Institute. University of Connecticut, Storrs, Conn. June 18–20.

New York State Public Health Association. Lake Placid, N. Y. June 3–6.

Western Branch, APHA, with Colorado Public Health Association. Shirley-Savoy Hotel, Denver, Colo. June 3–6.

REPORTS OF THE COMMITTEE ON PROFESSIONAL EDUCATION

(Officially Approved by the Governing Council of the A.P.H.A.)

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Educational Qualifications of Medical Social Workers in Public Health Programs
Educational Qualifications of Nutritionists in Health Agencies
Educational Qualifications of Public Health Dentists (Proposed)
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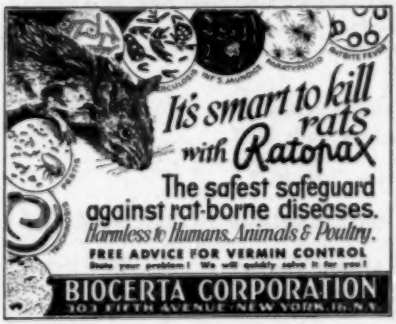
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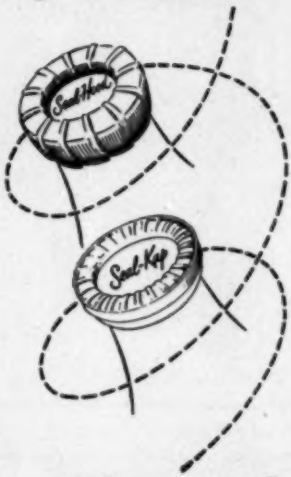

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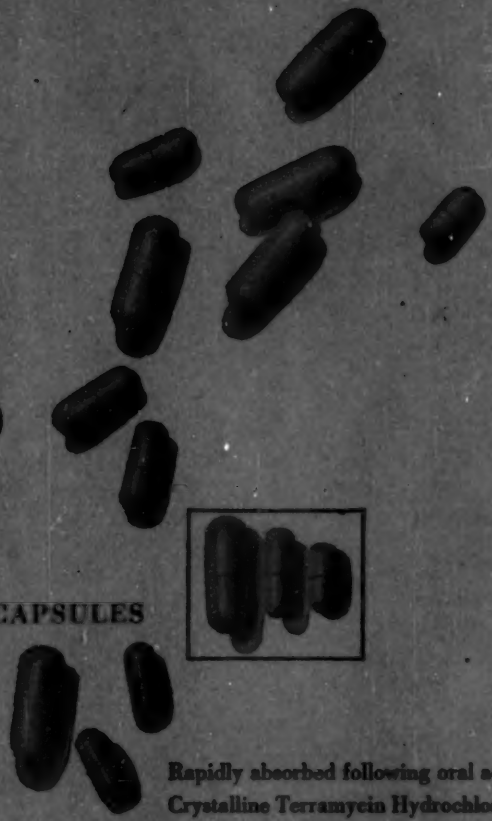

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